THE BUILDER

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THE EMPTY CUPBOARD

THE complications of international economy are such that the voter and the elected representative alike leave these matters to the expert in the hope that the expert will be able to guide us aright and forgetful that experts are apt to speak with the voices of Babel. Yet the principles of national and international economy do not differ from those of our personal economy—we cannot spend more than our income ; we can't get a quart out of a pint pot. Or as Wilkins Micawber put it so succinctly: "Income twenty pounds, expenditure twenty pounds and sixpence; result misery."

Believing that the technical Press should give a lead in these matters or at least provide a forum for their serious discussion, we venture to examine how the building industry is particularly affected in the present crisis. Let us remember that the greater part of the product of the building industry is technically capital investment, and no person, business or country can afford to invest at too high a premium. The building industry can therefore expect employment only to the extent that its products represent a reasonably safe investment. The sustained demand for the products of an expanding industry during the inter-war years resulted from faith in bricks and mortar as an investment, a faith which was justified by the then prevailing costs. The constancy of the relative proportions of domestic, commercial and public building was a healthy sign. Except to an insignificant extent the industry stood on its own feet and needed no bolstering by subsidy at the taxpayer's expense.

To-day, whatever may be the justification for building houses for those deemed by ideologists to be "in greatest need," the fact remains that, in a strictly economic sense, far too great a proportion of the industry is engaged upon subsidised house-building, that is to say, upon creating bad investments. In contracts containing rise-and-fall clauses there is no incentive to economy. Costs have consequently risen so high as to repel investment in commercial building even if licences were available.

How will costs be affected if satisfactory schemes of payment-by-results are worked out? The avowed objective is to enable the workmen to earn 20 per cent. more per week than at present. If this objective is achieved without extra cost to the consumer, surely the same amount of work as at present will be accomplished by a reduced personnel, and as shortage of materials is already the bottleneck and threatens to become more so, it looks as though, after all efforts to build up the manpower in the industry, some 200,000 building trades workers will become subject to direction to other industries such as coal production. Certainly our ability to sell coal to the Baltic countries would make more timber available for building. But can this transference of manpower be achieved without creating a sense of injustice sufficient to defeat the end? There are many—and they are not all cynics—who believe that the greatest incentive to further output would be a measure of unemployment such as may shortly face the building industry. In other words, the fact that the national larder is empty will not be appreciated until the domestic larders, too, are empty.

By what means can the building industry restore itself to a saner economy? What can it do to help fill the larder? There is grave danger in attempting to oversimplify this problem, but it is, to say the least, paradoxical that an industry with fifty years of intensive work ahead of it should be in the doldrums as we are to-day. The demand is assured. Labour, materials, organising ability and finance are necessary to enable the demand to be met. We have a plethora of labour and so much organising ability that at least one half of it—that which engaged in speculative house-building—is untapped. Finance is available in plenty from banks, insurance companies and building societies, not to mention the finance of ordinary business concerns or of the ordinary man who wants to live on his investment. Materials, even where they are scarce, are capable of being produced in adequate quantities provided a supply of coal can be assured. Timber alone has to be imported and at a pinch we can do without so much of that as we once required. But this vast productive machine is unlikely to get under way unless the finished product can be made available at a price which will give a satisfactory return on the money invested.

Let us take a simple example. A manufacturer is producing goods for the export market and could sell twice as much as his present capacity will produce. If he could move from his present factory—a partially blitzed building—to a new purposely built one he could so arrange his processes and his machines that his output would be doubled while his overheads remained constant. The change would justify him in paying £900 per annum in rent and rates, or say £10,000 in purchasing the new factory. But he cannot get a building licence—otherwise the housing priority programme would suffer. And so long as there is housing priority there is little likelihood that he could get his factory for £10,000. Therefore he is prevented from building up our fund of dollars.

Some of his workpeople (it must be relatively few) are lucky enough to have a subsidised council house for which they pay 15s. a week rent. The majority, however, have to stay in lodgings or with relatives and travel daily to their work at a total cost of say 30s. or more a week. If he were permitted to build his new factory he knows that private enterprise would be prepared to put up houses reasonably near at £1,300 or to rent them for £2 a week. Any extra cost to the workers would be more than recouped in greater convenience and higher earnings consequent upon the better layout of the new factory. And of course, no subsidy involving a tax upon the community would be necessary.

If circumstances could be so arranged that this manufacturer could get his factory and his workers could get their houses without the necessity for a subsidy, the building industry would be putting something into the national larder. Even a modification of this premise which involved a reduced subsidy would be a step in the right direction and would be no doubt preferred by the 200,000 who otherwise face the risk of direction out of the building industry.

NOTES AND NEWS

Festival City.

EDINBURGH is a fitting home for a Festival of Drama and Music, for from the historical, cultural and architectural point of view it has few equals in the world. Here can be seen the best work of Scottish architects, from its ancient castle on the hill, which dates back to 452, to the new buildings on Calton Hill by Mr. Thomas Tait. The line of fine quality building has never been broken. For Edinburgh is a classical city, and much of the new part of the town's beauty can be attributed to the brothers Robert and James Adam. Either in their own work or in the work they inspired others to do, their fine taste is predominant. Charlotte-square at the western end, George-street, with St. George's Church, are fine examples, although the church itself represents but a shade of Robert Adam's magnificent design.

In the first half of the nineteenth century, Edinburgh became a place of pilgrimage for the whole world of letters and art. Such names as Walter Scott (the wizard of the north!), Dugald Stewart, the philosopher, John Stuart Blackie, the great Hellenist, and that fine poet W. E. Aytoun, consolidated Edinburgh's reputation as a cultural centre; philosophy and poetry walked hand in hand, the arts and sciences kept step together in the triumphal intellectual march of the times in the city. This was a hundred years ago, but Edinburgh still holds tightly on to fine tradition. Perhaps it is in this particular city that the great value of tradition can best be seen. The pride of the people in their city is something to witness; it is possible for people to develop pride in a new town, but pride in tradition is a thing apart; it does not have to be fostered, it grows.

Mr. Jezreel and His Tower.

FURTHER information has just reached us about Jezreel's Tower, about which we wrote a week or two ago. (Some correspondence on the subject appears on page 242). The now defunct Jezreelites sect was founded in 1875 by James White, a soldier who gave the society the title "New and latter House of Israel," and himself the name "James Gershom Jezreel."

As the funds of the sect grew, Mr. Jezreel, like all good men, turned his thoughts towards building some sort of a monument to his devotion. Having had the requisite dreams and visions, he pronounced his intention to build a temple, "four square," and proceeded to draw sketch plans. An architect was called in, who reasoned with Mr. Jezreel upon such matters as the necessity of doors to rooms, etc., and finally the great work began. There was to be a tower at each corner and a dome 94 ft. in diameter. A circular opening of 24 ft. diameter in the floor of the assembly room was to admit of a platform for the preachers and singers on it. This was to be raised by hydraulic power from the ground-floor level. Mr. Jezreel had a feeling that he would like it to revolve, but he abandoned this under pressure. Just before the foundation stone was laid Mr. Jezreel died, but the work went on and reached roof level before the builders stopped work on account of the fact that they were not receiving any money. Up to this point £30,000 had been spent, and the builders took possession. For 20 years the tower stood derelict, for it will be understood that it was difficult to find a buyer. In 1905 it passed into the hands of a syndicate, who lopped off a few of its storeys with the idea of making it into a factory. It remains to-day an empty shell, a ghostly monument to the short-lived visions of Mr. Jezreel.

The New Towns.

MR. LEWIS SILKIN, Minister of Town and Country Planning, said at Crawley recently: "I don't want these new towns to be mass-produced. I don't want Stevenage, Hemel Hempstead and Crawley to be alike. I want each to have its own particular characteristics." We couldn't agree more, but until more local materials come on the market and more local craftsmen are trained, if the building of these towns starts within a year or two the architecture will perforce be of a definitely standardised quality. The fate of the craftsman in England is, at the moment, very much in the balance, with creative building slowed down to almost a standstill. Many craftsmen of invaluable worth are seeking work in factories. With the position getting worse rather than better, it will only take a very few years for individual craftsmanship to die out almost completely. Scope must be given, with reasonable remuneration, to these people now. Their work is a definite part of English architectural heritage.

Post-War School Planning.

WE learn that the special course of lectures on "School Planning and Construction" to be held at the R.I.B.A. will be confined to two days only, Thursday, October 23 and Friday, October 24. The lectures have been designed as a refresher course for architects; special attention will be paid to the requirements of the new Education Act and to the way in which these are likely to affect the work of the architect. An application form for tickets for the course and buffet tickets for refreshments has been circulated by the R.I.B.A. Members wishing to attend are asked to make early application for both sets of tickets as these will be issued in strict rotation. The programme is as follows:—

THURSDAY, OCTOBER 23.—11 a.m. Chairman: Sir Lancelot Keay, K.B.E., P.R.I.B.A. Secondary Schools, by Mr. Denis Clarke Hall [F.]. Discussion. 1 p.m., Lunch. 2.30 p.m. Chairman: Sir Lancelot Keay, K.B.E., P.R.I.B.A. Address by the Rt. Hon. George Tomlinson, M.P., Minister of Education. "Nursery, Infant and Junior Schools," by Mr. John Harrison [A.]. Discussion.

FRIDAY, OCTOBER 24.—10 a.m. Chairman: Mr. H. S. Goodhart-Rendel, M.A. Oxon., Past-President. "Standard and

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HIGH WEST-STREET, DORCHESTER. This dignified building is one of the many interesting Georgian buildings in the main street of Dorchester. Our drawing is by Arthur C. Fare, R.W.A.

Quality of Lighting," by Mr. William Allen, B.Arch. [A.]. Discussion. 11.30 a.m., "Heating and Ventilation," by Mr. C. C. Handisyde, A.A.Dip. [A.]. Discussion. 1 p.m., Lunch. 2.30 p.m. Chairman: Sir Lancelot Keay, K.B.E., P.R.I.B.A. "Acoustics," by Mr. Hope Bagenal, D.C.M. [F.]. Discussion. 4 p.m., "Use of Materials," by Mr. Robert Fitzmaurice, B.Sc. (Eng.), A.M.Inst.C.E. [Hon. A.]. Discussion.

There will be a small technical exhibition in the foyer which will illustrate and supplement the points discussed during the course. The exhibition will also include illustrations of schools in foreign countries; America, Denmark, Sweden and Switzerland have already promised contributions and it is expected that other countries will also be represented by examples of their post-war work.

Mr. Clough Williams-Ellis Resigns.

THE Ministry of Town and Country Planning announced on Tuesday, August 26, that Mr. Clough Williams-Ellis, F.R.I.B.A., M.T.P.I., Chairman of the Stevenage New Town Development Corporation, has resigned from that post because of the many other calls which are being made on his time and services.

The Minister of Town and Country Planning, Mr. Lewis Silkin, M.P., has accepted his resignation with great regret, and in a letter to Mr. Clough Williams-Ellis expresses his appreciation of the loyal and devoted work already given to the difficult task of preparing the ground.

Mr. Williams-Ellis, brother-in-law of Mr. Strachey, the Food Minister, was appointed chairman of the Stevenage Development Corporation last November.

The resignation takes effect immediately, states Mr. Williams-Ellis in an interview.

"I had to resign because I simply could not give the time that the work now certainly requires. We have built up the machine which is needed on the administrative side. My hope is that the actual physical work will now soon be seen."

Visit of Swedish Architects.

THE Architectural Association has organised a visit to England for a party of 50 Swedish architects and students at the end of September. During the first week the party will tour the West of England, visiting Salisbury, Bath, Stratford-on-Avon and Oxford, whilst the second week will be spent mainly in London, where hospitality for the students will be provided by members of the Association.

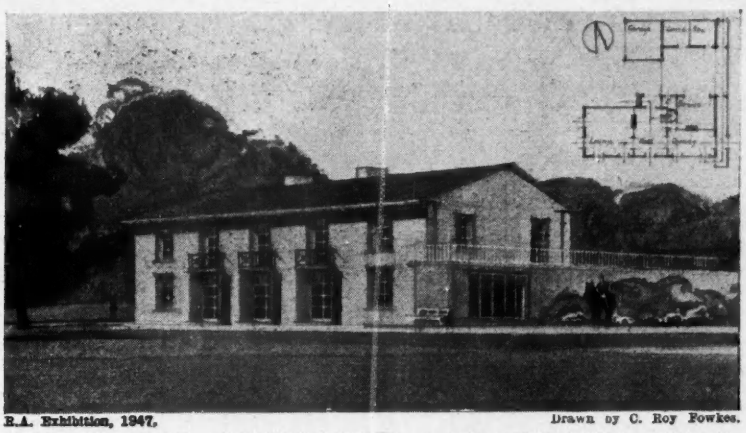
Newcastle's New City Architect.

NEWCASTLE CITY COUNCIL have appointed Mr. George Kenyon, Dip.Arch., A.R.I.B.A., A.M.T.P.I., as City Architect, at a salary of £1,600 a year, rising to £1,800, plus cost-of-living bonus of £59. Since May, 1946, Mr. Kenyon, who is 39, has been borough architect of Swindon. Among the many architectural works on which he has been engaged are the Empire State Building, New York, the Mersey Tunnel and the Quarry Hill Estate, Leeds.

R.I.C.S. Librarian.

MR. A. G. BELL, M.B.E., has recently been appointed Librarian of the Royal Institution of Chartered Surveyors. Mr. Bell, who has been Acting Librarian since February, 1946, first joined the Institution staff in 1934. During the late war he served in the Army Council Secretariat at the War Office and was awarded the M.B.E. in the New Year Honours List, 1946.

We are asked to state that the library of the Institution will be closed from September 1 to 15 to enable a rearrangement of the books on the shelves to be carried out. While the library is closed it will not be possible to answer inquiries; and all books due for return during the above period should be promptly handed in or dispatched to the Institution on the due date.



R.A. Exhibition, 1947. Drawn by C. Roy Fowkes.

HOUSE AT ASTROPE, PUTTENHAM, HERTS. C. ROY FOWKES, A.R.I.B.A., ARCHITECT

Princess Elizabeth, President R.S.A.

H.R.H. THE PRINCESS ELIZABETH has graciously accepted the invitation of the Royal Society of Arts to become its President. The Royal Family has been closely connected with the Royal Society of Arts for over 100 years. Prince Albert became the Society's President in 1843, and in that capacity initiated the Great International Exhibition held in Hyde Park in 1851. Other Royal Presidents have been their Royal Highnesses the Prince of Wales (later King Edward VII), the Prince of Wales (later King George V) and the Duke of Connaught. The Society is the third oldest of the learned societies in Britain, and will shortly prepare to celebrate its second centenary in July, 1954.

Proposed New Town at Easington, Co. Durham.

A proposal to establish a new town for some 30,000 people near Easington, Co. Durham, was discussed at a meeting between the Minister of Town and Country Planning (Mr. Lewis Silkin, M.P.), and local authorities in the area, on August 27. A letter sent by the Ministry to local authorities states that the town would be a balanced community, its citizens being drawn in the main from persons now living in unsatisfactory conditions in the rural district. Existing opportunities of local employment would be supplemented by the introduction of suitable additional industries. Development of the town would be by a Development Corporation set up under the New Towns Act, 1946.

Commons and Open Spaces.

THE annual report for 1946 of the Commons, Open Spaces and Footpaths Preservation Society (71, Eccleston-square, S.W.1) chronicles the successful stand taken against the encroachment by housing on Wanstead Flats and other work in the public interest during a busy year. The most pressing and difficult problem which had to be solved, the report states, arose from the demands of the Service Departments for very large areas of land for peace-time military training. "It is astonishing that in such a non-militaristic country as this, the Defence Departments should enjoy such despotic powers in time of peace, enabling them to acquire land compulsorily, without even giving notice to the local or planning authorities . . . to extinguish rights of common without reference to the Minister of Agriculture. . . ." Seven major cases were considered during the year and modifications secured in six of them. The Society stands in urgent need of new subscribers if it is to continue its useful work.

Memorial to London War Victims.

WE learn that a plan for a memorial on the south bank of the Thames dedicated to every Londoner—civilian and Service—who died through enemy action in the war is to be considered by the General Purposes Committee of London County Council when the Council reassemble. The sponsors of the proposal are Lieutenant-Commander H. F. Ryan and Mr. A. E. R. Coucher.

It has been suggested that the memorial should be a garden with a youth centre building laid out on part of the open space envisaged in the Abercrombie plan for the south bank of the river between Waterloo and Westminster Bridges.

An Architect's Estate.

MR. ALBERT WILLIAM CLEAVER, A.R.I.B.A., of Ewell, Epsom, left £79,776.

Professional Announcements.

MR. FREDERICK T. ORMAN, F.R.I.B.A., A.A.Dipl., and MR. ALAN D. SCOTT, A.R.I.B.A., A.A.Dipl., have entered into partnership, and are now practising under the style of ORMAN AND SCOTT, F./A.R.I.B.A., chartered architects, Quarry Hill House, Quarry-st., Guildford (tel.: 5024), and temporarily from 5, Cumberland-pl., Southampton (tel.: 2438), until permanent accommodation is ready, the address of which will be notified.

MESSRS. SINCLAIR AND NEWTON, quantity surveyors, will open branch offices at 9, Albion-place, Below Bar, Southampton, on September 1.

From *The Builder* of 1847

Saturday, August 28, 1847.

The new front to Buckingham Palace is being proceeded with rapidly under the direction of Mr. E. Blore. . . . Our readers will remember the architect's amusing report of the distressing position of our illustrious Queen, and accomplished Consort—made in this same month of August, last year—their domestic discomforts and miserable home, the hammering of cabinet-makers, the smell of the glue-pot, risk of fire and want of room for the young princes to stand upright in their apartments were only a few of the inconveniences to which the royal family were exposed in Buckingham Palace as it then stood. So melancholy a picture, touchingly set forth, deprived the House of Commons of thought for anything but immediate improvement and, with tears in their eyes, they at once voted 20,000*l*, in part of the sum of 150,000*l*, for the enlargement of Buckingham Palace and, as we believe, were sorry for it directly after.

COLOMBO CATHEDRAL COMPETITION

EXHIBITION OF DESIGNS

An excellent job has been made of the hanging of the drawings submitted for this competition at the headquarters of the Royal Society of Arts in John Adam-street, Adelphi. The room in which they appear is somewhat restricted for a representative selection from the huge number of drawings sent in, which amounted to something like 500 strainers from the 59 competitors. With great ingenuity a large number of these appear under conditions which make their appraisement a tolerable ordeal, and they have been arranged with considerable taste, without taking too many liberties with the practical needs of the case. The visitor is helped in every way to understand what has happened by means of a set of the original conditions and site plans and of the report of the assessor, Sir Giles Scott, O.M., R.A. Altogether, the exhibition is a most meritorious venture, much to the credit of its organisers.

The competition itself was an important one if only in its being the first of its kind since the war, and therefore the first for many years.

The work indicates a wide diversity of competitor, and there are obviously many who competed without possessing the qualities necessary for success. Some of these schemes are so bad that their authors were probably not conscious of their own deficiencies. Other authors, good enough to know their shortcomings, may have taken a chance upon the preoccupations of greater men. But it is very heartening to note that when these inevitables have been eliminated there remain a considerable number of really serious efforts to solve this problem, which was one of expression as much as planning.

One thing is certain, that in awarding the first premium to Messrs. Pinckney and Gott the assessor could not have had much difficulty in arriving at his decision. This scheme does, in fact, select itself, and has clearly arrived as the fruit of a lively imagination, the power for architectural expression, and a capacity for hard work.

From a study of the conditions and site plan the idea of a quadrangular layout suggests itself as an obvious possibility, so much so, in fact, that one would be inclined to mistrust first thoughts, often so deceptive. Neither of the premiated designs other than the first has followed such a lead, and the plan of Mr. Wride's scheme gaining him the third premium is extremely interesting; and with a more inspired handling than its elevations have enjoyed this has great possibilities as a composition. Mr. Velarde may have been a little fortunate in gaining the second premium. He is obviously an able designer, and there is a certain quality in his work; but the planning and grouping are a little fortuitous, and he has set a note of scale which might defeat itself. In this he would not be alone among the race of cathedral designers.

But these alternative solutions only make a return to the winning scheme more satisfying and convincing. It is, indeed, a noble conception, practical in its convenience of planning and bold in its treatment; and the architects have clearly visualised the task. It is a test of paper design that it should convey substance, and that the spectator should at once think of the job being built. This is, in fact, what this set of drawings contrives to do.

One criticises such work only with some trepidation, and here it is difficult to find fault. One has, perhaps, some doubt as to whether the cathedral interior will be as great as its exterior mass. In this, perhaps, one may be misled by the traditional form of a cathedral built by processes limited to the well-marked unit bay, which in rhythm does so much to give form to the theme of nave and aisle. The contemporary way of building, unit-based as it must be, urges with less insistence the emphasis between point of support and void, and it cannot be charged against a designer that he has offended against the realities of building. At the same time the leading up to the crossing suggests rather vibration than rhythm, and one wonders what will be the outcome. Probably such fears are groundless.

The perspectives by Mr. Gott give much pleasure. They have the right balance between artistry and faithful recording which all justifiable architectural perspectives must show, and it is pleasing to see that they confirm the harmonious contrast between the great cathedral and its ancillary buildings which the plans themselves suggest.

Apart from the premiated drawings, the remaining exhibits suffer in many cases by being incomplete, certain drawings only from each set being hung, and therefore telling only an incomplete story. The remaining drawings are in the room stacked, but it would be a superhuman task for the passing visitor to attempt to sort them out. Such selection as has been made, however, has been discriminating and skilful.

It may be that the incompleteness of these other schemes may explain why some of great merit have failed to better the second and third choices, for some, indeed, do seem to have been at least as well studied and even more successful. The design by Mr. S. J. Edwards, for example, has obviously been very carefully thought out and has been skilfully handled, with an interior of great possibilities.

Mr. Farey's design is also one of quality, helped, of course, by the draughtsman's technique, but architectural in treatment. As a contrast in rendering are the good line drawings of Mr. Wilson Peiris, who has succeeded in producing a well-knit scheme in harmony with the East and with a happy relationship between the cathedral and its low adjuncts. This is a most commendable scheme which must have been well into the short list, and it is particularly refreshing in its complete independence of the tricks and subterfuges of the competition draughtsman.

Mr. Yarrow has also produced a thoughtful and consistent design which attracts interest. The theme is distinctly modernist in approach, but without outrage to the subject. This seems to be a thoroughly feasible design, even though it may seem somewhat reluctant to leave the drawing board.

Mr. Curtis Green presented a consistent design, with some nice feeling, though less effective as a scheme than might have been expected.

Of the remaining exhibits there are a number that could be described as good fifth-year work, but with nothing to suggest the fulfilment of a great and inspiring task. The failure of so many to catch the atmosphere and inspiration of a great centre of religious life and practice is remarked upon by the assessor in his report, and it is indeed distressingly obvious. That these qualities have been caught only in the winning design is probably a little severe on several other sincere and able competitors, but it must be admitted that a large majority were clearly unfired by this exciting problem, and might well have known that without a burning zeal their labours were foredoomed.

A word must be said for the general presentation of the original competition, because it might well be a model for promoters and assessors elsewhere.

The conditions were, from the nature of the problem, difficult to frame. Unlike a competition for some scheme at home, the site of this one was inaccessible to the great majority of the competitors, and those who have been in for competitions will know what a handicap that is bound to be, and how decisive that usual site call can be. Most of them also would be unfamiliar with the prevailing conditions. The assessor, desiring to attract talent from a wider field than that occupied by the few who could fill in these gaps from personal experience, has thus to draw something of a picture for the benefit of the stranger, and this was most successfully done.

The site plans give essential information very graphically, and great care has been shown in the wording of the descriptive matter. In addition to this there is a great deal of interesting data as a guide to the scientific problems involved and bound up in the combination of heat and humidity which makes Ceylon a place difficult to live in without the aid of modern ingenuity.

The schedule of accommodation was obviously well thought out, clearly grouped, and specific without being hampering. A test of the success with which the original conditions were framed is to read the competitors' questions and the answers given. Although these were fairly numerous, no really material point was reopened such as to affect the competitors' task in any important direction. Most of the questions were, in fact, either trivial or redundant, and there seems to be a superstition among some of the overanxious that failure to ask a question is a breach of competition manners. Why this always happens is beyond the comprehension of even the common man, let alone the assessor.

Sir Giles Scott was also happy in the framing of his report, which did much to carry the mind of the reader along with him in his mental processes. He confesses to a difficulty in awarding the second and third premiums, and this difficulty will be well understood by those who visit the collection.

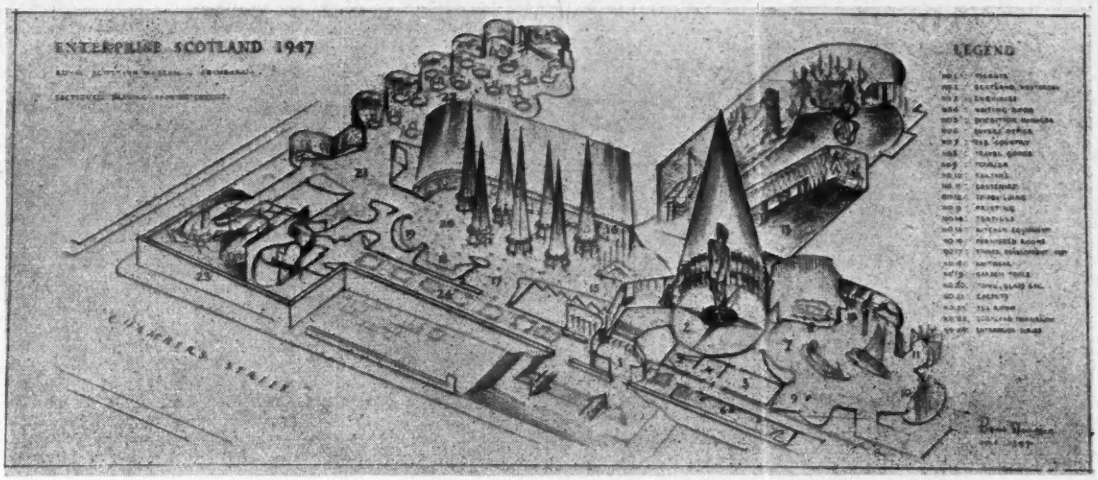
The main purposes of a competition, that it should disclose the best scheme, and that that scheme should be a fine one, have been amply fulfilled in this case, and of the remainder, none is better placed to judge than an assessor who has obviously studied his problem as thoroughly as Sir Giles has done.

It is to be hoped that the exhibition will receive good support both from architects and from the lay public, for it will well repay a visit. In particular, those who are already on their toes for the Coventry scheme would do well to look in to see how a broad and comprehensive project of this kind has been tackled by a profession much occupied with things of the earth, and little encouraged to dream dreams of fine architecture.

Ceylon is fortunate in having got so far along the road of high endeavour, and we shall watch with interest its attempts to reconcile vision with reality.

G. M. A.

[*** The premiated designs were illustrated in our issue for May 9.—Ed.]



"ENTERPRISE SCOTLAND 1947"

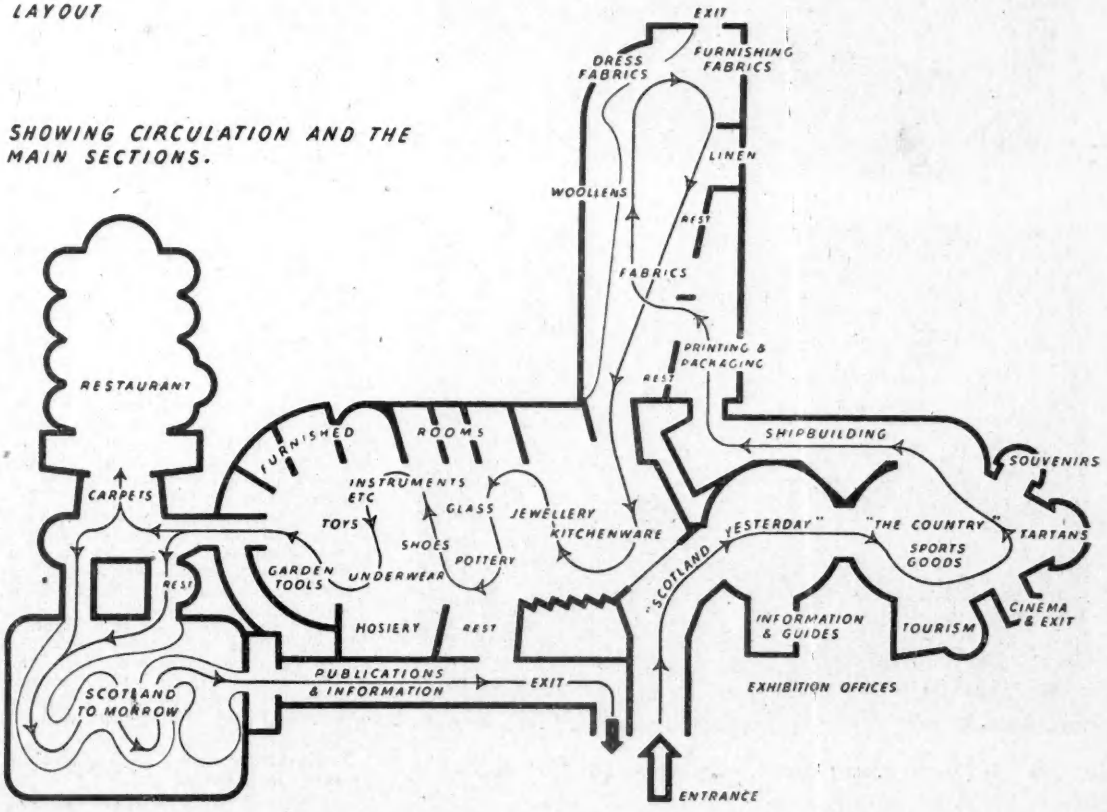
Reviewed by ALEXANDER ADAM, Dip.Arch.(Glasg.), A.R.I.B.A., F.R.I.A.S.

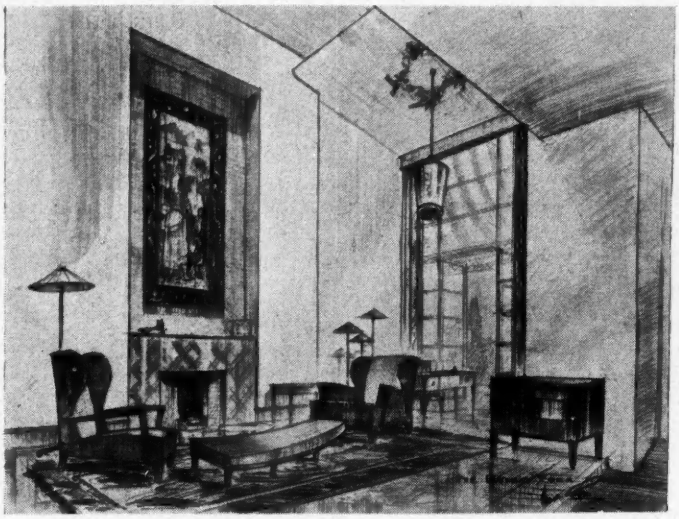
To convert the usually sombre interior of a museum into the gay setting of a modern exhibition is no easy task, but this has been achieved by the architect for the "Enterprise Scotland 1947" Exhibition. No doubt the experience gained by Mr. Basil Spence, the architect of the "Britain Can Make It" Exhibition, enabled him to envisage a layout which would be attractive. To get a building in Edinburgh suitable for such a purpose was the first difficulty encountered, and it says much for his ingenuity that he has contrived so successfully to wed the present-day ideas to those of the past. He has done this with a thoughtful and careful use of the limited materials at his disposal; in fact, so limited was the supply that the timber had to be brought from London, timber which had been in use before for a similar exhibition.

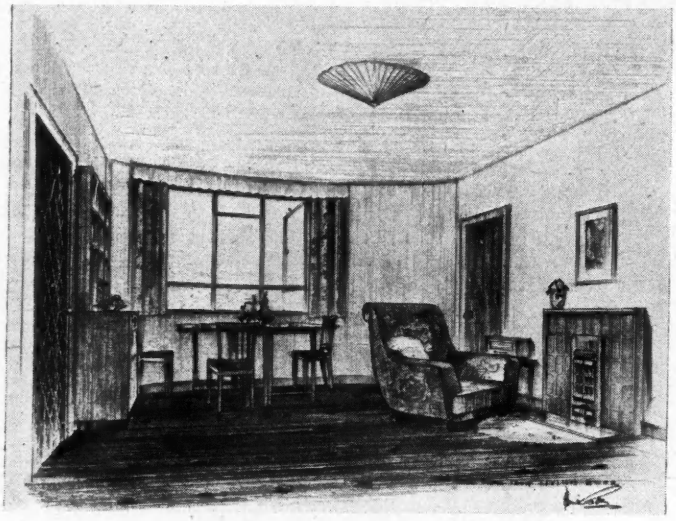
The typical exterior of the Royal Scottish Museum, the building in which the exhibition is housed, does not prepare one for the gaiety and colour of the interior, though an attempt has been made by the use of tubular scaffolding erected at the main entrance to advertise the exhibition on a large scale, but this arrangement is not entirely satisfactory. The building does not lend itself to such extraneous treatment, but once the entrance doorway is passed the scene is entirely changed;

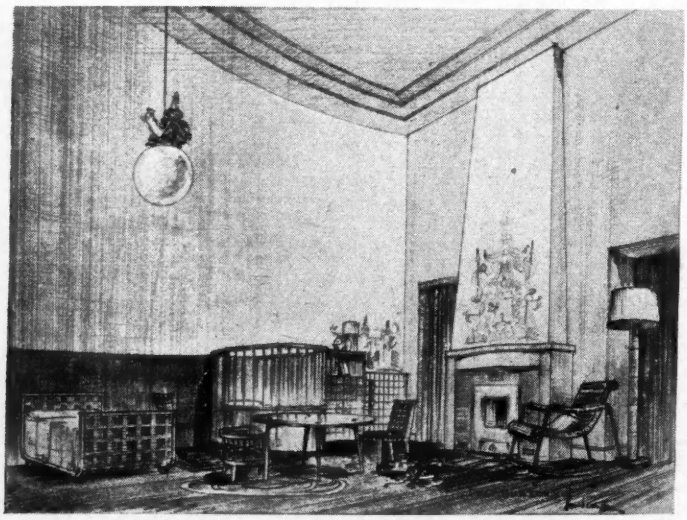
LAYOUT

SHOWING CIRCULATION AND THE MAIN SECTIONS.









Furnished Rooms in the Hall of Pinnacles, designed by Esmè Gordon.

the transformation has commenced, and it is a complete transformation—no part of the interior of the museum is seen.

The plan of the museum did, to some extent, dictate the form which the layout has taken, but the plan is so arranged that one is completely unconscious of the rectangular shape into which the exhibition has been placed, and this effect has been attained by altering the heights of the various parts, parts of a whole rather than separate apartments; each part merges gradually into the next, and by a well-directed, though not apparent, procession, the visitors find themselves at the exit, having passed through a series of gaily coloured and delightfully attractive salons.

What makes this exhibition the most attractive of its kind to be held in Scotland is the use of new building material—if it can be called building. There are no walls as such; screens made from netting backed by brightly coloured thin scrum fabric: ceilings of pyramidal or cone shape, supported from above and formed of woven spun glass, plywood and plasterboard cut to fanciful forms, and as the only lighting is by electricity, full advantage has been taken to enhance the colourfulness of the whole design, giving the effect of a setting for a ballet rather than for an exhibition of materials which one day may be in every-day use. It may be questionable if this is a good thing. It is beyond the powers of most individuals to absorb the mental picture provided by the layout for the exhibition and the objects exhibited at one visit or half a dozen visits, and one or the other aspects of the exhibition will suffer in comparison.

That the promoters and organisers, the Scottish Committee of the Council of Industrial Design, had the courage to go ahead with the project at a time when prospects are so glum, and that their architect, Mr. Basil Spence, F.R.I.B.A., and chief designer Mr. James Gardner, O.B.E., M.S.I.A., and their staffs infused sufficient enthusiasm into their work in the face of so many difficulties says much for the pertinacity of the Scottish people. But when it is remembered that all the exhibits in the exhibition are Scottish, and there are three thousand of them, it justifies the great effort which has been put forward to make the exhibition the great success it undoubtedly is.

The layout of the exhibition is planned on the following lines: First, Scotland in the Past, dominated by the ghosts of five famous Scots—Lord Kelvin, James Watt, Henry Bell, Foulis, and Neilson (the Glasgow Scot who introduced a new era in the process of iron smelting). These are depicted on a glass panel in front of which is a sculptured group by Benno Shotz, of Glasgow, showing the Spirit of Industrial Progress.

The Hall of St. Andrew, patron saint of Scotland: Placed in the centre of this circular hall is a statue 25 ft. high made of aluminium and brass foil, but, because of the thinness of the metal, it weighs only 4 cwt. The figure is most impressive, the glitter of the metal and the way the sheets have been moulded to suggest the flow of drapery give to the whole conception an appearance of action, the work of Walter Pritchard, Glasgow. Below is a large circular sheet of Vitrolite in the form of a compass bearing the names of Scotsmen who became famous overseas. Round the walls of this hall are the coats of arms of 32 famous Scottish families. The ceiling here is cone-shape, formed of woven spun glass.

The Country: Placed in this sequence because the industrial present grew out

of the countryside, here are exhibited all kinds of sports outfits.

Shipping: This traces the growth of shipbuilding in Scotland from the days of the "Charlotte Dundas" (1802) to the "Queen Elizabeth," the world's largest liner, and is shown by models of various ships and the produce of the ship chandler and shipbuilder.

Printing: Scotland has been famous for fine printing for centuries, and here is exhibited printing in all its forms, books available for home and export trade, as well as those marked for export only, examples of bookbinding, printed illustrations, students' exhibits of typography and layout, packages, cartons, containers and bottles.

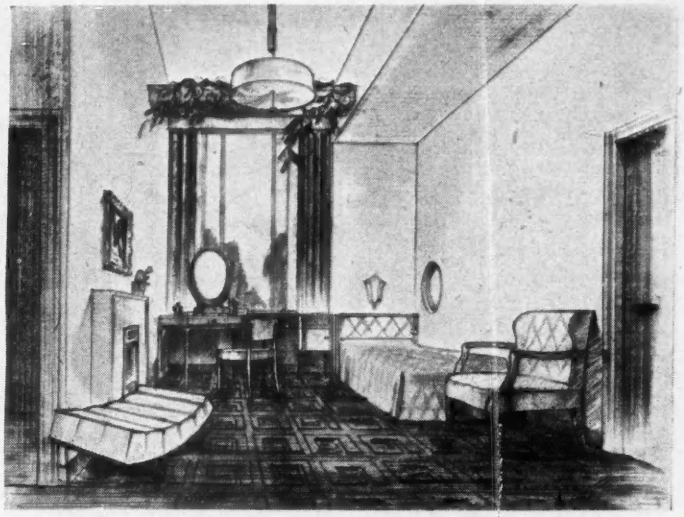
Cloth Hall: The dominating figure is "Jenny Weave," sculptor, Pilkington Jackson, Edinburgh. The old wall on the left is the Flodden Wall, hastily erected by the citizens of Edinburgh 434 years ago after the Scottish defeat at Flodden. It is still on its original site; the museum was built around it. This is a very attractive part of the exhibition, and one which shows effectively the range of woollens, tweeds, silks, rayons, cottons, and furnishing fabrics produced in the mills of Scotland, but, unfortunately, a large proportion of the exhibits are marked "For export only."

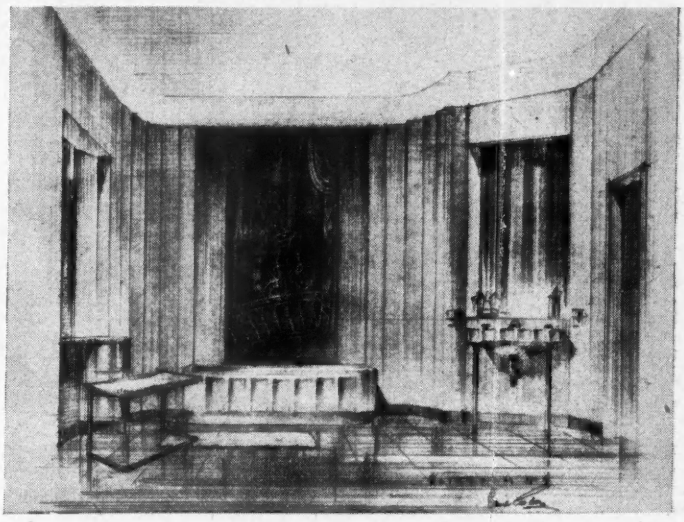
The Hall of Pinnacles: The most exhilarating part of the Exhibition. The design consists of a large hall with a ceiling rising in a conical shape and formed of 6,000 sq. yds. of woven spun glass (made in Glasgow), which with the spun glass in the Hall of St. Andrew constitutes the biggest use of spun glass ever made. Rising from the floor of the hall are a number of cone-shaped showcases brightly coloured and cleverly lit, showing to best advantage the jewellery, glass, shoes, toys, etc., and it is along the side of this hall that are placed the furnished rooms designed by Esmè Gordon, Edinburgh, and all furnished with furniture specially designed for the exhibition, living-rooms, kitchen, bedrooms, boardroom, bathrooms, all showing a complete range of furniture and furnishings.

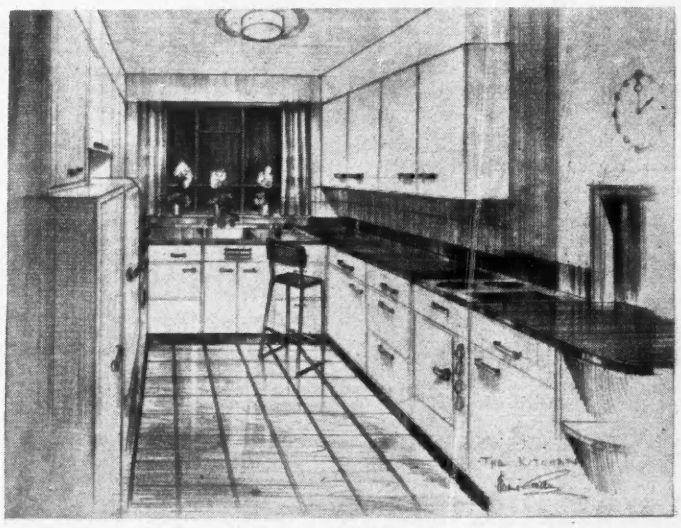
The carpet in the larger living-room is specially good in design, and is by Templeton, of Glasgow, but as all the furniture and furnishing had to satisfy a jury before being exhibited, and as a very high standard was set, the result is in most cases satisfactory, and the design of the rooms, without being ultra-modern, strikes a new and pleasant note.

The Restaurant is a gay place, screened off with alcoves formed of metal netting backed with woven fabric, each alcove of a different colour. The effect is one of lightness and brightness, and behind the service counter at the end is a mural painting in harmony with the general design. The furniture is light oak and the chairs are backed with leather strap work, as are also the seats, of a colour to match. The ceiling is relatively low, which gives a more intimate setting to the furniture, while around the walls are flowers in pots, giving an out-of-doors appearance to the whole space, particularly acceptable on a warm day after a tiring walk.

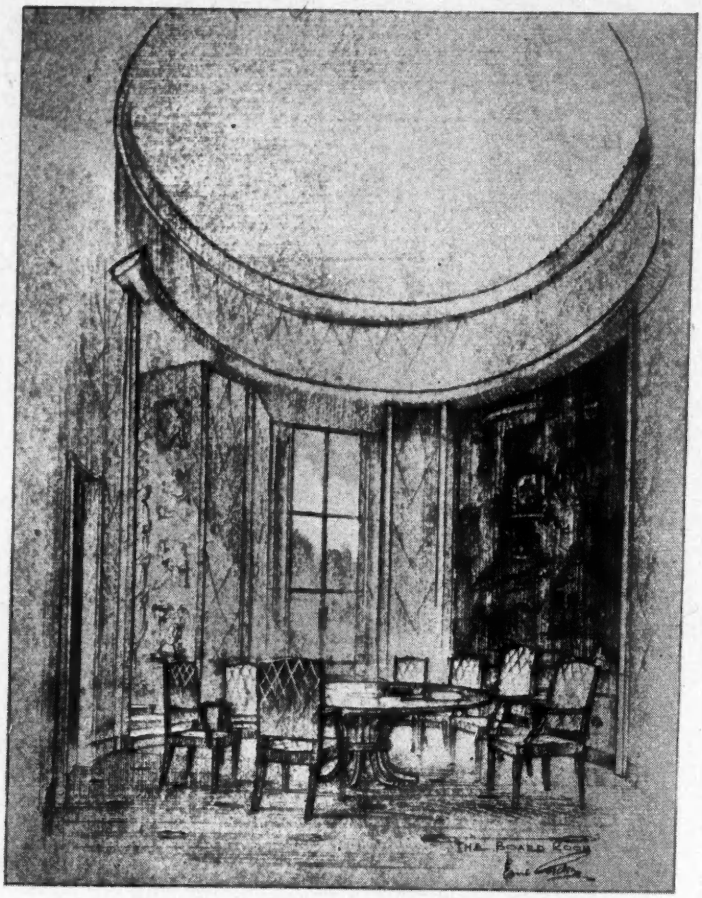
Scotland To-morrow: Designer, Edwin Galligan. The design of this part, like the subject, is rather obscure. The symbolism, which is the key to the design, is not apparent. The sloping ramp which leads to the exhibits is not caused by exigencies of the structure, but is symbolic of the uphill work to be undertaken for a better future. The dim lighting and







Furnished Rooms in the Hall of Pinnacles, designed by Esmè Gordon



A Furnished Room at "Enterprise Scotland," designed by Esmè Gordon

spot-lighting create the impression that the possibilities for the future are limitless, but from this example the possibilities are still chaotic. The exhibits illustrating coal, forestry, hydro-electricity, town planning, etc., are scattered up the length of the ramp, but at the top is a tunnel. This is meant to suggest that the various activities are being correlated and at the end of the tunnel is a large cyclorama showing how they all fit in to the plan for the future of Scotland.

The first exhibit on entering this part is a huge lump of coal, indicating the primary importance of coal to all other activities. The population of Scotland is approximately 10 per cent. of the United Kingdom but she produces 12½ per cent. of British output in coal, and in the new coalfields being planned in the east and central belts of Scotland she will have the most modern coal pits in the world. Plans of new or improved townships to meet the needs of this expanding industry on the east coast are exhibited, as also are plans of the redevelopment at Vale of Severn, gateway to Loch Lomond and the Highlands. Work has already begun on the new industrial estate here, set in magnificent surroundings.

The culmination of this trend and its future possibilities are seen in the model and plan of the design for a new town. This design, produced by the planning Department of Health for Scotland, is of no particular area, but is a scheme to show an ideal arrangement on a typical undulating site to provide the facilities and amenities of a modern town. The industrial belt to the north, housing, schools and recreation to the south, a river flowing through the town break it up into sections, use being made of the low-lying ground adjacent to the water for the formation of bathing facilities and public gardens.

While this is visionary, already one such town has had official sanction, that at East Kilbride, and plans are in course of preparation which will, no doubt, embody many of the features worked out by the Department of Health, after much research, and shown here in their plan of the town of to-morrow.

From this complicated and rather confused view of the prospect for to-morrow the visitor passes into the Publications and Information corridor, and thence to the exit. It is well that this is one of the cheeriest of the many parts of the exhibition; it has natural lighting, is decorated in the manner of a conservatory, is full of brightness and light and raises the visitors' spirits as they leave the exhibition and go forward with hope to a brighter future.

In addition to the exhibits in the exhibition proper, 14 prominent firms have provided shop-window displays in Princes-street. These are used to show 14 subjects of importance in Scottish life to-day, and this is regarded by the exhibition organisers as an integral part of the enterprise.

The exhibition was opened by the Duke and Duchess of Gloucester on Monday, August 25, and will remain open until the end of September and may be continued into October.

PLAN FOR BOURNEMOUTH, POOLE & CHRISTCHURCH

PREPARED BY SIR PATRICK ABERCROMBIE AND RICHARD NICKSON

ALTHOUGH these three towns did not suffer to any serious extent from war damage, the present conditions make it desirable to take stock of assets and study defects in order to prepare a plan of a broad advisory character, untrammelled by existing legislation, but kept within the bounds of economic possibility. This plan attempts to formulate a programme based upon a series of progressive stages; it is not imagined that all the proposals can be carried out at once, nor that everything in the plan will be approved, but the picture of the region taken as a whole is presented for the purpose of technical administration and popular discussion.

The three boroughs of Bournemouth, Poole and Christchurch, which form the region for the purposes of this report, present as complete a contrast, each from the others, as could well be imagined. The closely irregular streets, eighteenth century and earlier buildings of old Poole with its busy quayside and wide land-locked harbour are backed by an indifferent expansion of more recent times. The sudden Victorian development of Bournemouth as a pleasure and health resort, appearing on a hitherto virgin heathland, failed through a lack of planning, typical of the period, to make the best use of its natural beauties of pine woods, sand and sea—of the great wide sweep of Poole Bay, with its high coast line of precipitous sandy cliffs, and the endowment of its varied contours and deep wooded chines. Then the quiet seclusion of an ancient fishing hamlet and small country town is graced, at Christchurch, by its superb Priory Church and mediæval castle precincts, its bird marshes and gentle little river estuary.

These three sharply contrasting entities together claim an area of some 50 square miles of countryside with a population divided into 133,000 for Bournemouth, 70,000 for Poole and 16,000 for Christchurch. The proposals contemplated in this report visualise the increase of these figures to 215,100, 129,600 and 32,900, respectively. These increases would allow an average of about 25 persons to the acre in those areas designated for development. While all three towns present specific problems to the town planner, those of Bournemouth are probably more affected by the changes in living conditions due to the war. There, and in the immediate neighbourhood we are confronted by some three to four thousand large and somewhat pretentious villas with pleasant gardens, which, in the economy of the private family of to-day, can only rightly be termed "white elephants," obsolescent features of departed days of opulence.

Apart from this specialised problem, there are numerous others concerned with the improvement in communications, better facilities for various forms of recreation and a more orderly and coherent civic pattern as a whole. All these matters are dealt with at length in the report.

H. V. L.

Eisteddfod Award Winner.

MR. NORMAN S. JOHNSON, A.R.I.B.A., A.M.T.P.I., obtained the award in the Architecture class of this year's Royal Welsh National Eisteddfod, held at Colwyn Bay, North Wales, recently. The subject given to the competitors was a "Youth Centre and County College." The assessor was Mr. T. Alwyn Lloyd, F.R.I.B.A., P.P.T.P.I., O.P.S.

Mr. Johnson holds the post of Deputy County Architect for Anglesey.

PETERBOROUGH TECHNICAL COLLEGE COMPETITION

THE PREMIATED DESIGNS

THE assessor in this competition, Mr. T. Cecil Howitt, D.S.O., F.R.I.B.A., has made his award as follows :

1st Premium (£500).—Mr. D. C. H. Jenkin, B.A., A.R.I.B.A., London, S.E.24, Senior Lecturer in Architecture at Regent-street Polytechnic.

2nd Premium (£250).—E. D. Lyons and Israel, AA.R.I.B.A., London, W.1.

3rd Premium (£150).—Atherton and Brenchley, AA.R.I.B.A., in collaboration with Ralph F. Poole, London, W.1.

The designs of Messrs. Powell and Moya, S.W.1, and of Messrs. Vine and Vine, N.22, were commended.

THE ASSESSOR'S REPORT

The assessor's report is as follows :

In accordance with the instructions of the Peterborough Joint Education Board I have examined the whole of the drawings submitted.

The promoters are to be congratulated on such an excellent response to the competition, 82 sets of drawings having been received.

The somewhat irregular shape of the site and the mixed type of accommodation required have created exceptional variety in the various selections.

My award is as follows : 1st place, design No. 21; 2nd place, design No. 2; 3rd place, design No. 45.

The winning design, No. 21, is a brilliant and outstanding solution to the problem, showing a unique study of even the smallest details.

The buildings, when erected to this design, would adapt themselves well to the character of the site and the surrounding property; they would be worthy of the city, and they should set an example for present-day accommodation of this character.

Of the remaining designs I would commend designs Nos. 35 and 51 for sound solutions of the problem.

WINNER'S REPORT

FOLLOWING are extracts from the Report of the winner :—

THE PLAN.—The plan is determined by the following conditions :—(1) The main entry is from Park-crescent. The assembly hall and administration block need to be grouped near this point. (2) The Engineering, Building and Baking Departments, and the engineer's workshop are grouped together for economy in layout of services and service roads. The farmland on the N.E. part of the site offers the most suitable position. (3) The general teaching wing is centrally placed. (4) Related departments are near each other. (5) All rooms have suitable aspect. (6) Noise interference is prevented by planning. (7) Blocks are spaciously grouped for the sake of light and air. (8) Future extension must be flexible. (9) Trees are preserved and incorporated into the scheme.

The layout that results consists of departments in separate, self-contained blocks, connected by a Z-shaped corridor. The main plan form is kept direct, and the blocks are placed in a simple rhythm, allowing detailed variation in each department according to its own particular requirements.

Entrances.—A visit to the site demonstrated the advantages of Park-crescent for a main entrance, chiefly for the following reasons :—

(1) It has the most direct approach from the town along either Park-road or Broadway.

(2) It provides a spacious and dignified setting.

(3) It avoids congestion on a traffic road when students leave the college, and allows them to issue on to a safe road and then disperse to east and west.

The service road off Eastfield-road provides a direct approach for lorries coming from the town. It may also be used as a secondary entrance for students using the workshops. There is a caretaker's lodge at each entrance. An additional entrance is formed at the end of Grimshaw-road to the playing fields. All remaining entrance points are closed up and the site boundary simplified by selling unwanted plots.

Site Layout.—The existing trees form an important part of the design and provide the college from its inception with an amenity for which some buildings have to wait years. A certain amount of additional planting is proposed, and saplings should be placed in suitable gaps between existing groups of trees for the sake of future continuity.

The present turf is preserved as much as possible to provide a fine setting for the buildings.

Each department is surrounded by lawns, with direct access to them.

Paths allow open-air communication between departments.

There are formal gardens opposite the dining-rooms and opposite the students' common rooms. The former garden has a fountain with a bronze or lead figure. The latter has a fish-pool in a promenade, and also a piece of carving on a lawn.

Sports.—Two hard-paved playing areas, totalling 1.06 acres, are laid out adjacent to the gymnasia. The following pitches are provided :—Three Association football; two Rugby football; three hockey; nine tennis courts; four netball, of which two are marked on the paved area; one permanent cricket pitch opposite the proposed pavilion; four cricket nets.

A new pavilion is proposed opposite the end of Grimshaw-road containing lavatories, cloaks, a small refreshment kitchen, and games stores.

Water points are laid within reach of all pitches for summer watering.

The ditch is laid with drain-pipes, filled in, and turfed over.

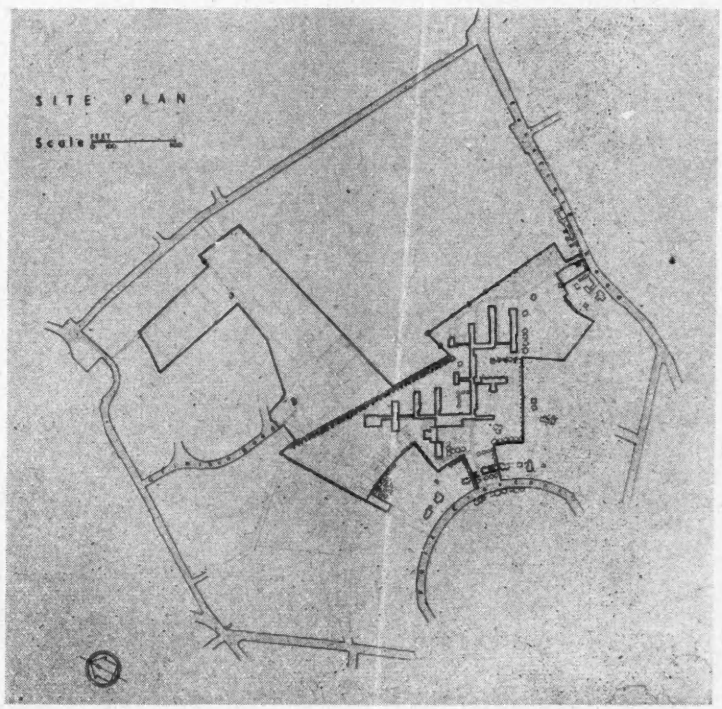
CONSTRUCTION.—Steelwork, based on a 5-ft. module for economy, flexibility of design, and speed of erection, is designed in 15-ft. structural bays generally and in 10-ft. bays in the workshops. The frame is first erected and the roof fixed, allowing work to proceed under cover. The 15-ft. bays are subdivided by two mullions wide enough to take a partition, making rearrangement of partitions at any time a simple matter. Connections between departmental blocks have generally load-bearing, brick, cavity walls.

Steel sections are reduced as much as possible by adopting light forms of infilling. Roofs in general are hollow-tile reinforced concrete, covered with bituminous roofing material finished green-grey. Panels at ground floor are chiefly 11-in. brick cavity walling, and above are lime-cement rendering on 3-in. hollow-tiles, with cavity, and 3-in. wood-wool slabs plastered. Upper floors are hollow-tile reinforced concrete.

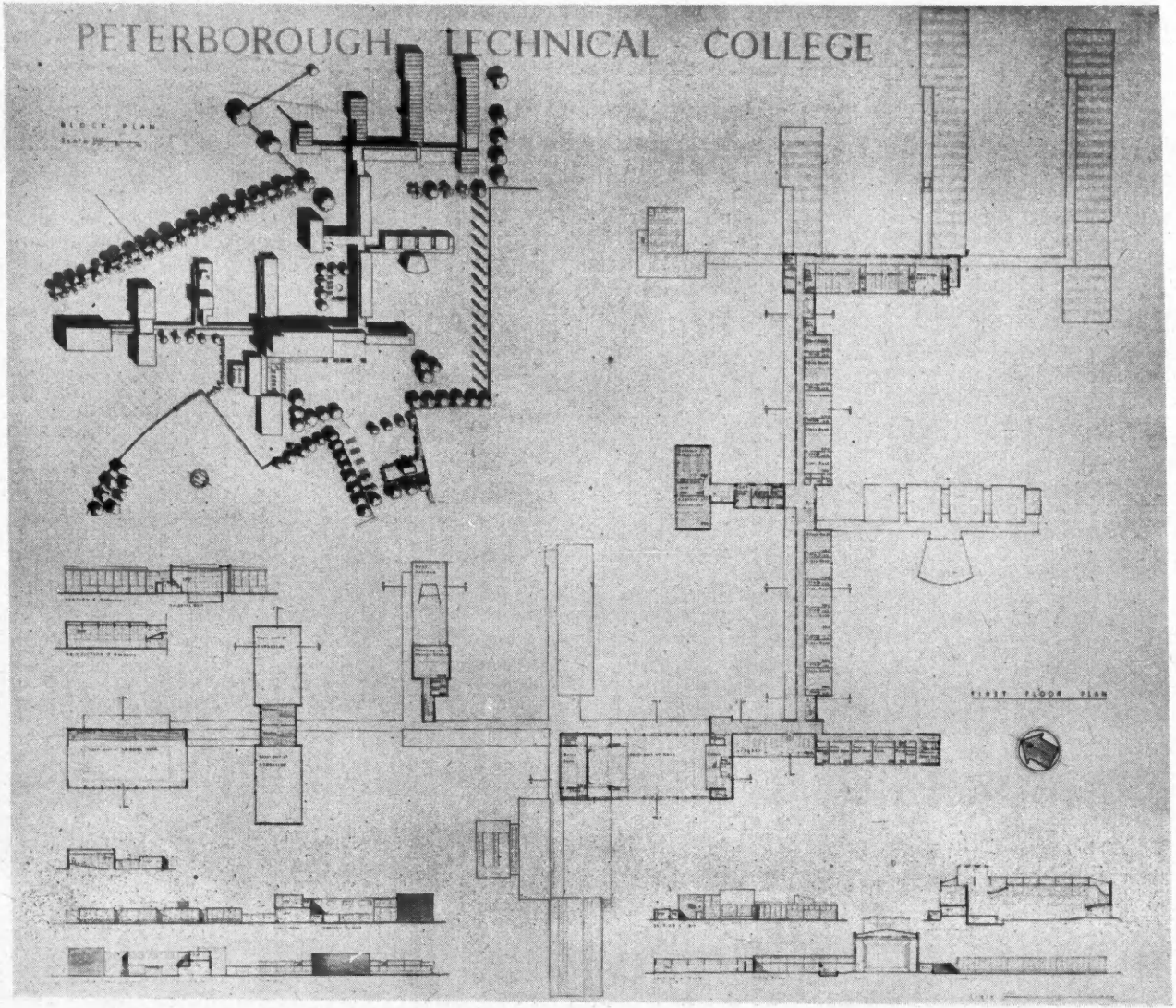
Exterior cover to stanchions is by egg-shell-glazed, enamelled, pressed-steel sheeting.

The facing over the main entrance is plain clay tiles having a dull glaze, surmounted by a plaque bearing the city coat-of-arms on a decorative background.

Fittings are sturdy and finishes capable of standing up to the considerable wear



SITE PLAN OF WINNING DESIGN. BY D. C. H. JENKIN, B.A., A.R.I.B.A.



and tear to which this building is likely to be subject.

Internal Finishes.—Ground-floor corridors: Floors—Fleximer type; walls—fair-faced brickwork; ceilings—distempered wood-wool. First-floor corridors: Floors and ceilings as ground floor; walls—plaster with painted dado. Classrooms: Floors—wood block; walls—plaster above dado. Dado—lino, if not too expensive when building is erected; ceilings—plaster. Workshops: Floors—wood block generally. Granolithic laid in slabs where wood block unsuitable through heat, acid, etc.; walls—plaster. Acoustic tiles added in very noisy shops; ceilings—N.E. glazing. Remainder, insulating board. Lavatories: Floors—terrazzo laid in slabs; walls—glazed tiles up to 5 ft., plaster above; ceilings—plaster.

Lighting and Aspect.—The distance between blocks is based on the shadow thrown at noon on midwinter's day. Where blocks occur on the north side of a corridor the classrooms are sufficiently removed to prevent undue shadow falling on them.

All rooms are designed for suitable aspect to their purpose.

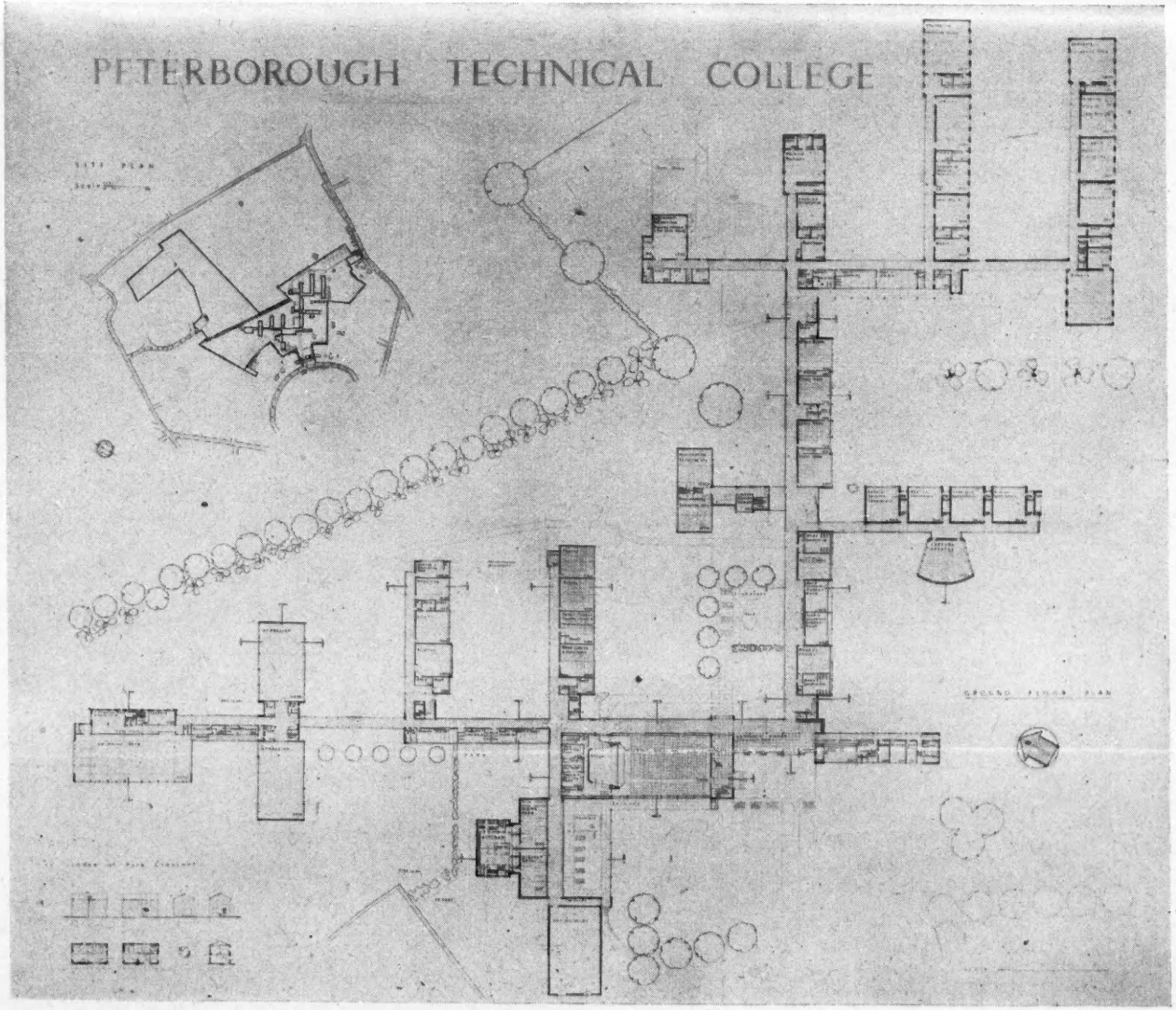
The Ministry of Education requirement of 2 per cent. minimum daylight factor is satisfied in all teaching rooms. The majority have a 5 per cent. minimum daylight factor.

The problem of glare is met by giving a deep section to stanchions and mullions, and by taking windows right up to the ceiling and to the end walls. In addition, there are special baffles to the first-floor windows of the classrooms and engineers' drawing offices.

All teaching rooms, corridors, and other rooms needing good, continuous artificial light have fluorescent lamps, supplying a minimum of 10 ft.-candles. At night there is outdoor lighting along the entrance drive, in the car park, and at entrance doors.

Heating and Ventilation.—It is not possible at this stage to make a final decision on the most economical fuel. Under certain conditions gas, or oil if the restrictions were removed, might be competitive. Apart from their cleanliness in handling and saving in manpower, these would allow the heating chamber to be placed under the assembly hall and so reduce the size of main pipes. The present design is worked out in terms of stoker coal.

The heating chamber, 40 ft. x 25 ft. x 10 ft. high, is underneath the maintenance engineer's workshop. It contains three



PETERBOROUGH TECHNICAL COLLEGE COMPETITION

GROUND AND FIRST-FLOOR PLANS OF WINNING DESIGN. BY D. C. H. JENKIN, B.A., A.R.I.B.A.

10 ft. high, is underneath the maintenance engineer's workshop. It contains three boilers with automatic stokers, and fuel space for a week's supply. Economy in piping is obtained by installing calorifiers adjacent to the swimming pool and lavatories.

There is a space for dumping fuel reserves to the N.E. of the engineer's workshop.

A subway, 3 ft. 6 in. wide, and 5 ft. high runs underneath the main corridor from the bakery to the art department, and contains all hot-water mains, cold water and gas. Electric cables and telephones are carried in a completely separate duct.

The principal form of heating is by low-temperature ceiling panels, supplemented by slight heat in the floor. Workshops are fitted with unit heaters. Ventilation is through the roof and the side windows. Classrooms have natural cross-ventilation.

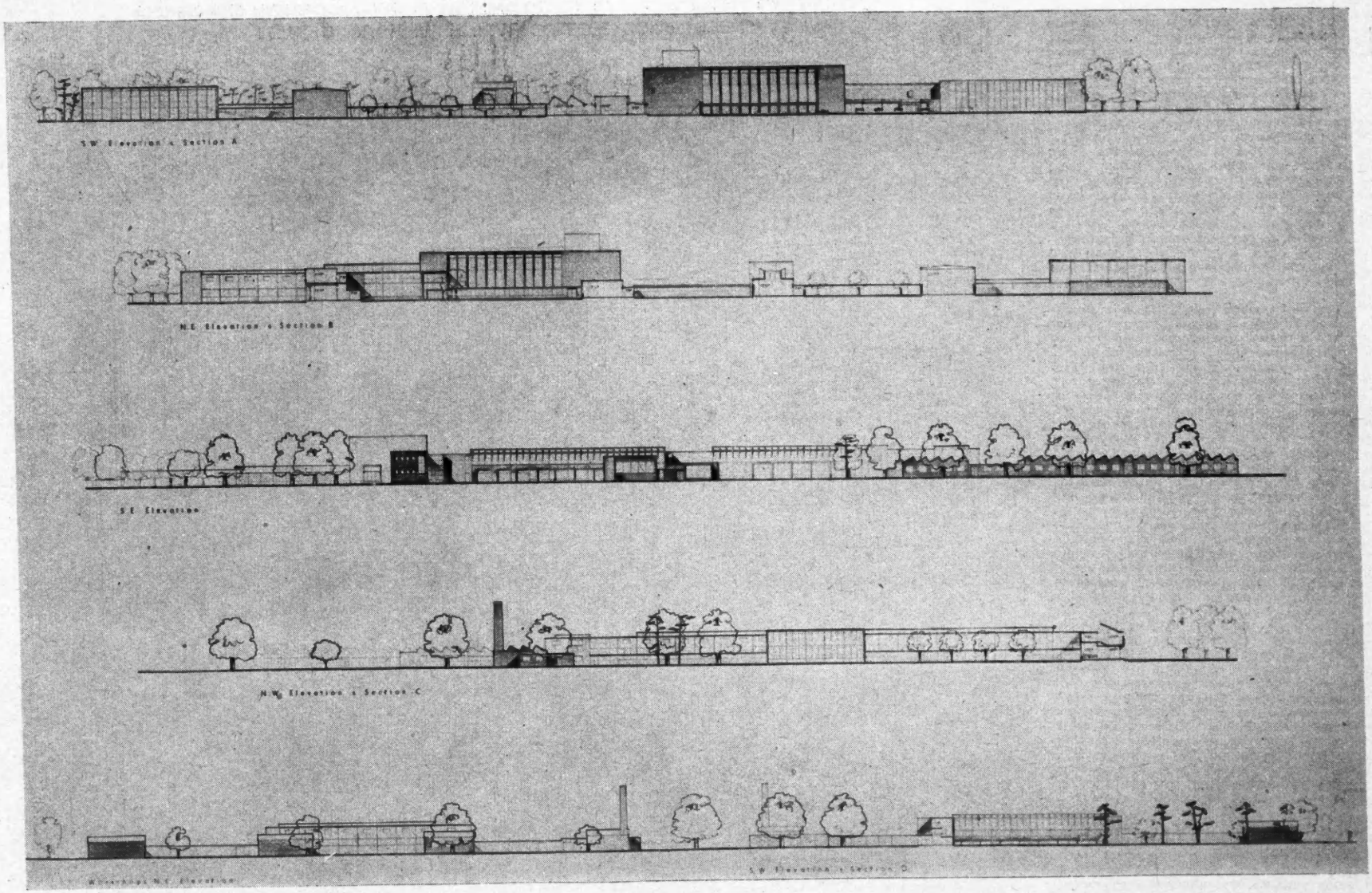
The assembly hall has a plenum system. When it is empty, and for rehearsals, ventilation is natural, through the fly-tower, and fabric heat is maintained by wall panels. Heat loss is lessened by limiting window sizes as far as suitable, as in northerly-facing corridors, and by using the construction quoted above, under "Construction." Roofs have an insulating lining.

NOISE REDUCTION.—The reverberation time is reduced in rooms with a tendency to noise by the use of sound absorbents. The following rooms are treated in this way, and those liable to condensation have special perforated tiles :—Entrance foyer, general office, students' common rooms, dining-rooms, gymnasia, swimming pool, typing rooms, lavatories under classrooms, noisy workshops.

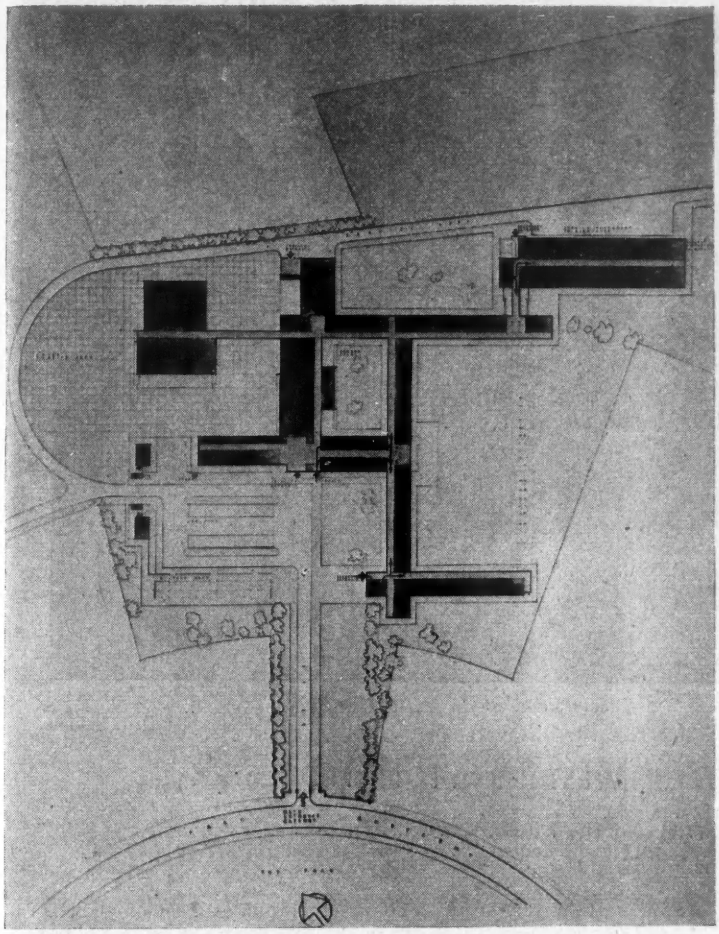
Corridor ceilings are of exposed wood-wool slabs, and the floors are of the Flexi-mer type.

SOUND INSULATION.—The workshops, with the noisiest rooms at the far end of each block, direct their sound over the fields and away from the building. The bath is opened up. The lawns between blocks help to reduce sound interference by absorption.

Classrooms have stores sandwiched between them. Corridor walls on the ground floor are 9-in. brick, and on the first floor are plastered wood-wool board on concrete studs, both giving a 55 decibel reduction. Doors to the four large classrooms on the ground floor are heavy and close fitting. Typing rooms partitions are also plastered wood-wool board on concrete studs.



PETERBOROUGH TECHNICAL COLLEGE COMPETITION. ELEVATIONS AND SECTIONS OF WINNING DESIGN. BY D. C. H. JENKIN, B.A., A.R.I.B.A.



block containing the engineers' drawing offices, together with the row of trees, form a baffle against any stray sound between the workshops and the quieter parts of the building.

The swimming bath also faces away from the main building, over sports grounds where sound is greatly absorbed and dispersed. The gymnasia serve as a baffle against stray sound in summer when the

Assembly hall sound disturbance outwards and inwards is avoided by double walls and by lobbies between hall and corridor. The clerestory windows do not open. Music-room walls and floor are discontinuous, allowing music-rooms and stage to be used at the same time for rehearsals.

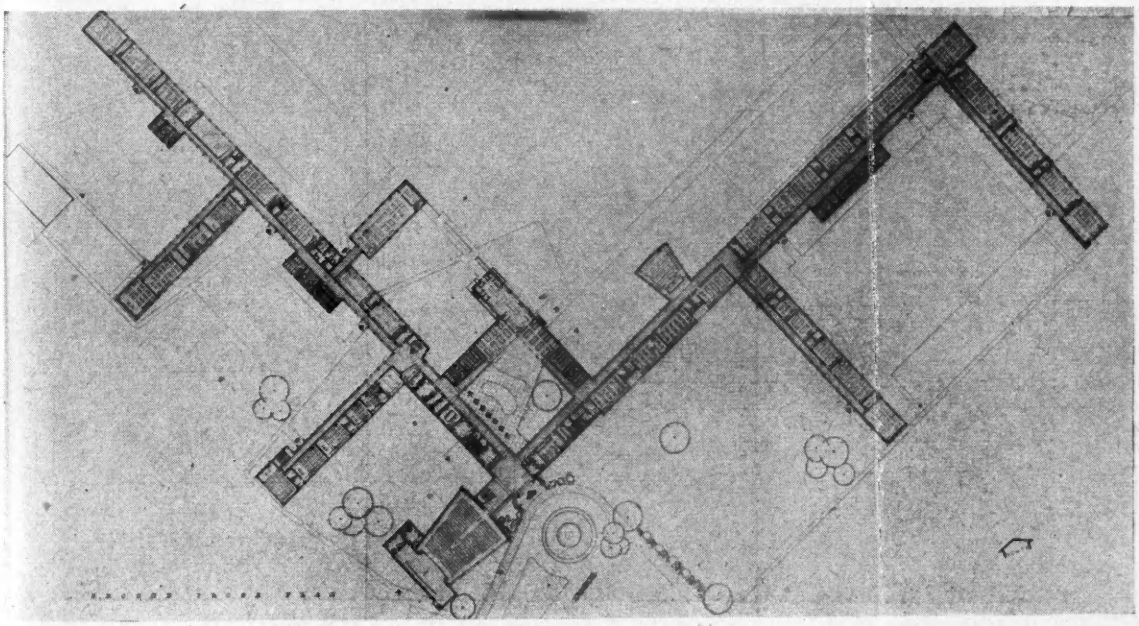
ESTIMATE OF COST

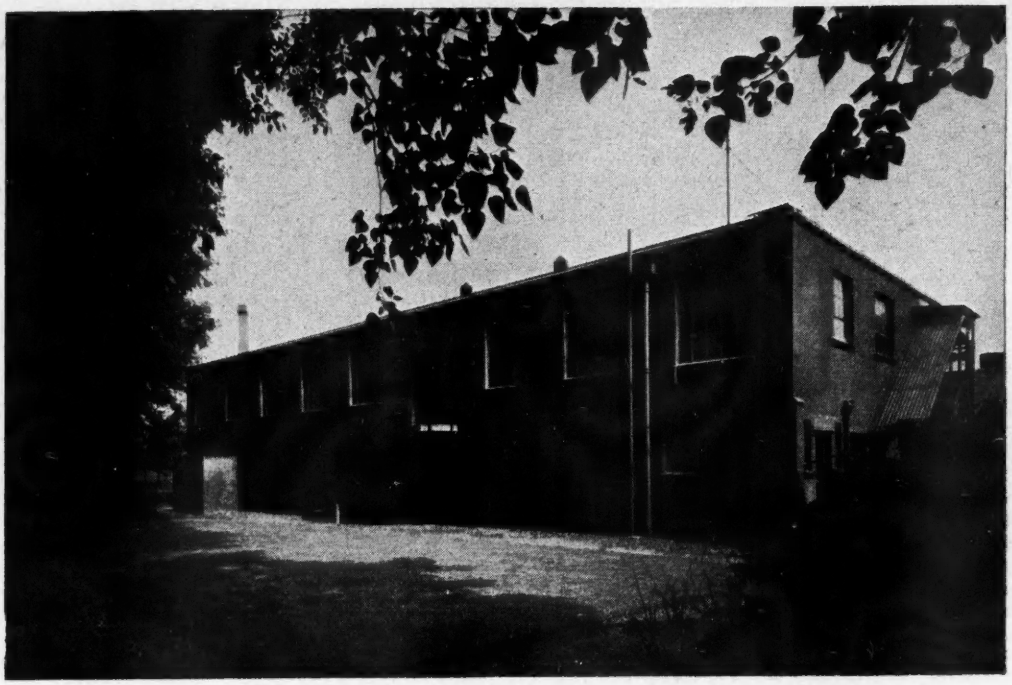
		£
Total cubic contents of the buildings: 2,549,345 cub. ft. at 3s. 6d. per ft. (based on twice 1s. 9d. in 1939) equals £446,135 8s.		446,135
Drains		3,500
Service roads and yards: concrete. 4,200 sq. yds. at 25s. ...		5,240
Entrance drive: tarmac finish ...		1,500
Paths: tarmac. 1,646 sq. yds. at 12s.		990
Terracing: stone paving. 1,000 sq. yds. at 30s.		1,500
Car park		660
Fuel dump		250
Trees and other planting ...		100
Sports:		
Convert into sports grounds all fields north of the avenue, and the proposed Association football pitch to the east. 19 acres	1,500	
Lay drain-pipes in existing ditches and level up	750	
Pave 1.06 acres of gymnasia	1,200	
Tennis courts, three hard, six turf	2,500	
Netball	250	
	6,200	6,200
Sports pavilion		4,000
Total		470,075

PETERBOROUGH TECHNICAL COLLEGE COMPETITION

Left: Block plan of design placed second. By E. D. LYONS and ISRAEL, AA.R.I.B.A.

Below: Ground-floor plan of design placed third. By ATHERTON and BRENCHLEY, AA.R.I.B.A., in collaboration with Mr. RALPH F. POOLE.



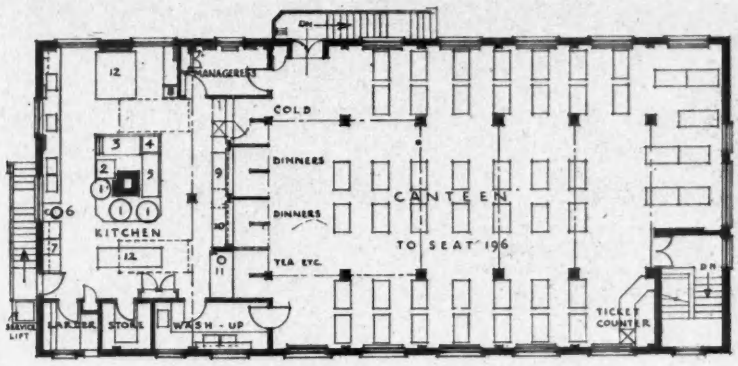


Exterior View.

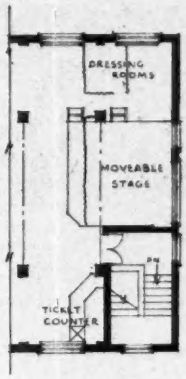
WORKS CANTEEN, WEST DRAYTON, MIDDLESEX

H. LEWIS CURTIS, F.R.I.B.A., ARCHITECT

Canteen Interior.

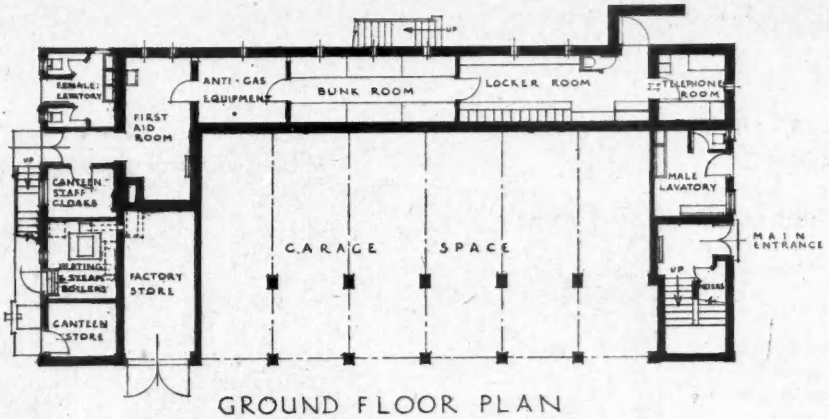


FIRST FLOOR PLAN



PLAN SHOWING STAGE

SCALE
10 5 0 10 20 30 40 50 FT.



GROUND FLOOR PLAN

WORKS CANTEEN, WEST DRAYTON

BUILT IN THE FIRST PART OF 1942 to provide a factory canteen, garage space for the cars of employees and visitors, and an A.R.P. control post and first-aid station, this canteen was intended for, and is used for, post-war meal supply to the factory employees and was planned to be suitable for small dramatic performances, receptions and dances to meet a temporary local need for such accommodation. The kitchen was planned in consultation with Miss Garrett, of the Industrial Welfare Society, and the canteen is given as an example of small canteen planning in "Canteens in Industry" recently published by the Industrial Welfare Society.

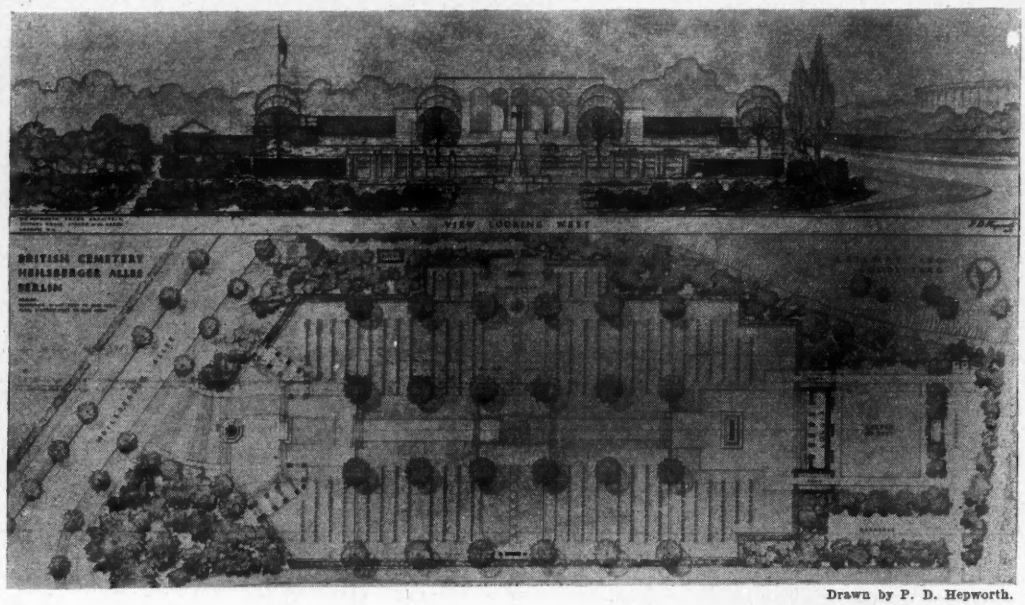
The building is arranged so that its south windows overlook the Grand Junction Canal, the space between canteen and canal being planned as a rest garden with access by an outside staircase from the canteen. Meals are served on the ticket system, the diner reading a menu on a board at the bottom of the staircase and buying his tickets at the ticket counter before proceeding to the serving counter. The building is of supporting brick-wall construction with short-span steel frame for first floor and flat roof, floor and roof being formed in precast concrete beams. The brick piers in the canteen were introduced to reduce the amount of steel required. The roof is covered with roofing felt and loose gravel. Owing to war restrictions, no other heat insulation to roof was provided, but the ceilings were finished with cork paint to reduce effects of condensation.

Windows are steel casements with wall-board folding shutters. The canteen floor is of "Durablock," and kitchen floor is in red quarry tiles. Heating is by low-pressure hot-water radiators, and a steam boiler for kitchen cooking supply is provided. It is doubtful whether a steam supply is really economic for so small an installation, but at the time of design it was expected that gas would not be available.

The exterior is rendered in lime plaster, a single coat without addition of cement on sand lime bricks, which are left visible in garage piers and coping. It is intended later to complete the original design by forming a raised ceiling over that part of the canteen next to the serving counter with clerestory windows, thus increasing the daylight in that part and reducing the slightly depressing effect of a large and rather low, unbroken ceiling.

The consulting engineer was Mr. S. W. Budd, and the quantity surveyors, Messrs. Selby and Sanders. The kitchen consultant was Miss Garrett, Industrial Welfare Society, the heating engineers Messrs. E. Wingfield Bowles and Partners, and the general contractors, Messrs. W. S. Try, Ltd.

Sub-contractors and suppliers were:—name plates, Allied Art Industries Ltd.; flat roofing, D. Anderson and Sons Ltd.; sanitary fittings and mirrors, J. Bolding and Sons Ltd.; steelwork, Cook and Co. Ltd.; metal windows, Crittall Manufacturing Co. Ltd.; electric cooking and water heaters, English Electric Co. Ltd.; refrigerator and hand lift, J. and E. Hall Ltd.; kitchen fittings, sinks, service hatch, J. Farquharson and Sons; control shelter ventilators, Greenwood's and Airvac Ventilating Co. Ltd.; liquid soap dispensers, London Oil Refining Co. Ltd.; A.R.P. door, staircase, roof balustrade and crush rails, Haywards, Ltd.; "Hollocast" floors and roof, Indented Bar and Concrete Engineering Co. Ltd.; plywood doors, Merchant Trading Co. Ltd.; electric installation, telephone in control shelter, A. S. Newman; floor (Durablock), the Terradura Flooring Co. Ltd.; bricks, Uxbridge Flint Brick Co.; gas supply and cooker, Uxbridge and District Gas Co.; padlocks, Yannedis and Co. Ltd.; steam-heated cooking equipment, steam heating, ventilation, Young, Austen and Young Ltd.; stage curtains, Furdecor Ltd.; and, painter of drop scene, R. H. Faultless.



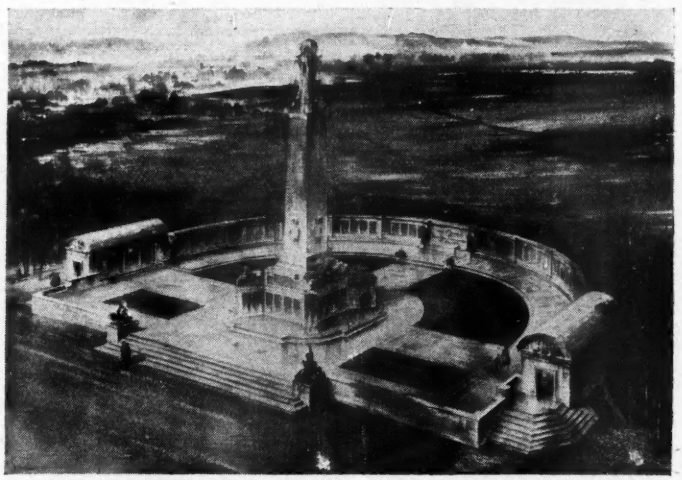
Drawn by P. D. Hepworth.

ARCHITECTURE AT THE ROYAL ACADEMY

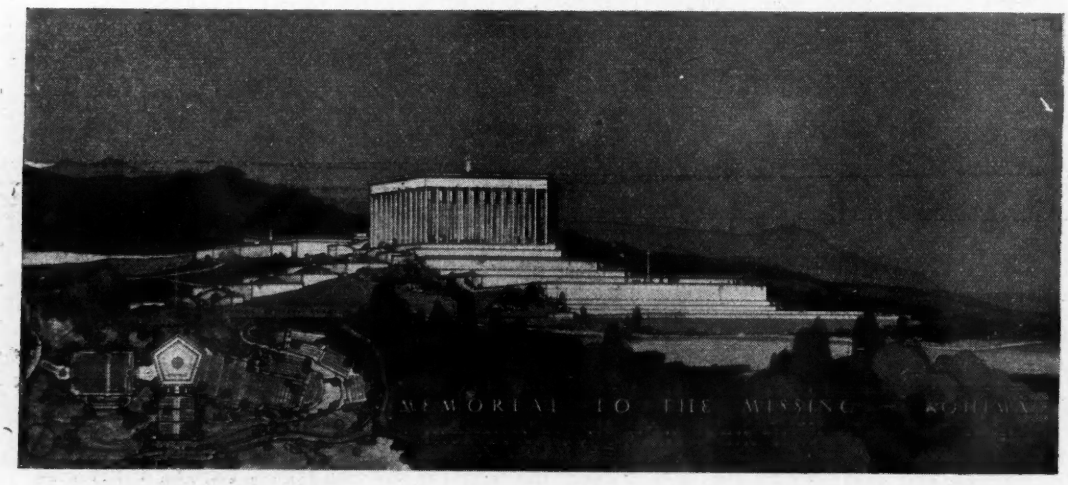
BRITISH CEMETERY, HEILSBERGER ALLEE, BERLIN (*top*). PHILIP D. HEPWORTH, F.R.I.B.A., ARCHITECT.

SECOND WORLD-WAR ADDITIONS TO THE NAVAL MEMORIAL, CHATHAM (*right*). EDWARD MAUFE, A.R.A., ARCHITECT.

PROPOSED MEMORIAL TO THE MISSING AT KOHIMA (*below*). COLIN ST. C. OAKES, M.B.E., A.R.I.B.A., ARCHITECT.



Drawn by J. A. Greene.



HOUSING ESTATE near MERTHYR TYDFIL

ARTHUR J. HAYES, L.R.I.B.A., & GORDON H. GRIFFITHS, F.R.I.B.A., ARCHITECTS

THE VAYNOR AND PENDERYN RURAL District Council have purchased 45 acres one mile distant from Cefn Coed for rehousing as a self-contained community. Messrs. Arthur J. Hayes and Gordon H. Griffiths, architects, town planning consultants and surveyors, of Cardiff and Merthyr Tydfil, have been appointed architects for the complete scheme. The site falls sharply from west to east, and is bisected from south to north by a class 1 road. This presented a problem when planning the village, and one access only has been provided from it to the western and eastern portions of the scheme respectively.

The scheme provides for 288 houses, 50 of which will be prefabricated Airey type and the remainder of eight different traditional types, including 12 aged persons' dwellings. It has been calculated that the scheme will accommodate 1,200 inhabitants. Provision has been made for a community centre which will comprise facilities for adult education, recreation, a cinema and dance hall. In the ground adjacent, tennis courts and bowling greens are included. Shops are grouped around the other segment of the village centre. Old Vaynor house, from which the site obtains its name, was a large country house built in stone and of an interesting character; this will be retained and modernised as a guest house and club. Bungalows specially designed for aged people are placed around an open close, with easy foot access to the village centre.

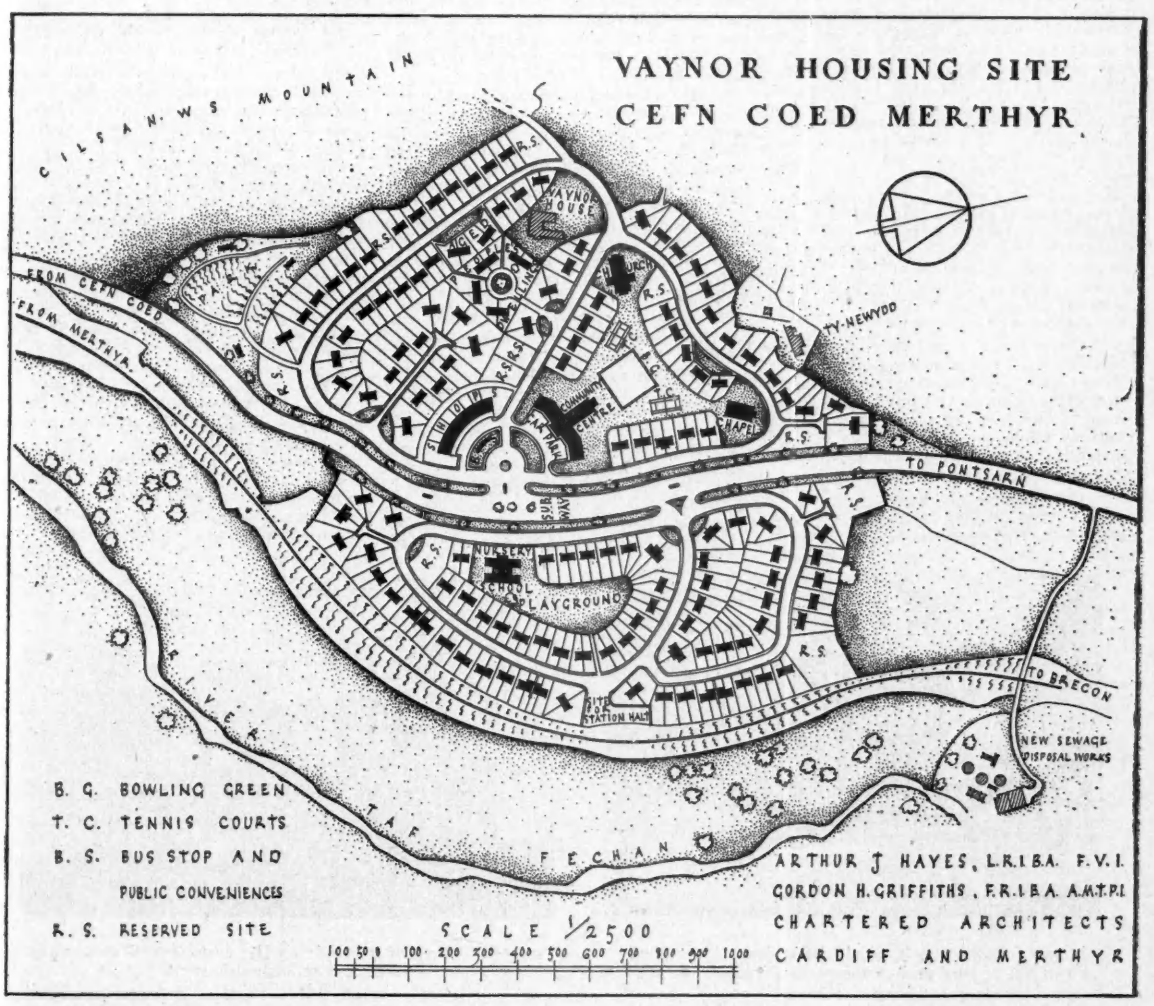
To the extreme south of the site, reservation has been made for a small natural park; the whole of the site commands a magnificent view across the Taf Fechan Valley, some 500 ft. below. "Sun-trap" shelters will be placed in suitable positions. A bus shelter and public convenience is sited within the village centre. Existing trees are being retained. Sites for religious denominations have been reserved. It was the Council's desire to retain some sites to be reserved for private enterprise for houses of a larger floor area than those in the Council's programme, and these have been interspersed at intervals throughout the layout.

The nursery school has been placed on the eastern portion of the scheme and closes the vista from the village centre; it is sited in an area of 1½ acres, part of which forms the playground. Access for schoolchildren from the school and the eastern portion of the scheme to the western portion is by means of a subway passing underneath the main road. A site for a railway halt is retained at the lowest end of the eastern portion, and negotiations are at present proceeding between the appropriate railway companies and the Council. A new sewage disposal plant has been designed, and will be placed at river level on a site at the extreme north-eastern area of the scheme.

The layout has received approval of the Ministry of Health, and site clearance and building operations will commence shortly.

Rail Bridge for Road By-Pass.

AT the request of the Devon County Council the Great Western Railway are to construct a new bridge near Totnes to carry the Totnes by-pass road over its main line. The bridge superstructure will consist of a single reinforced concrete skew span of 62 ft., with parapet walls of local stone, the substructure being mass concrete with local stone facings. The bridge will carry a 30-ft. wide roadway, with two 5-ft. footpaths. Work on the project is expected to commence in the near future.



CORRESPONDENCE

Jezreel's Tower, Gillingham

To the Editor of *The Builder*.

Sir,—It was with great interest that I saw the illustration and read your note on Jezreel's Temple, New Brompton (now Gillingham), in your issue dated August 15. With grateful acknowledgment to Mr. A. Gibbs, a well-known local printer, who still has in his possession the original plans and drawings of the Tower, I append the following information :—

"This large unfinished building stands on land of commanding height at the upper part of Gillingham (originally 7½ acres in extent), is a particular landmark in the district and can be seen for a radius of many miles. According to plan, it was to have been built to a height of 124 feet, the bulk of the building to be 100 feet, which, in turn, was surmounted by castellated towers, eight in number, rising 24 feet higher. The building itself would have been a perfect square, having each of its four sides of equal dimensions and of exact corresponding design. In the centre of an otherwise flat roof there would have been a lantern (afterwards altered to a low dome) with a diameter of 65 feet.

"The structure was of substantial construction; the outer walls were of bricks and cement grouted, 4 ft. 6 in. at ground level, graduating to 1 ft. 6 in. at the top. The interior was steel girder work, nearly 1,000 tons being used.

"The purpose for the erection was to make it the headquarters of a religious community, upon which many unfortunate rumours had been circulated as it was a sincere Christian body, the founder being a James J. Jezreel. The chief feature of the building was the large hall which would have had seating accommodation for nearly 5,000 people. The layout was somewhat unique in character, as seating arrangements were provided on three entirely circular galleries and one floor, and the platform arrangement for the speakers was designed firstly to be circular and to be worked by lifts to raise and lower to convenient heights, and then very slowly rotate. Entrance to this large hall was by stairways at each central tower or by lifts and stairways at each corner tower.

"There was a large basement to house machinery for lifts, heating apparatus, etc. Above that, the ground floor was for the use of the printing and publishing department. The first floor and upwards was entirely taken up with the large hall and committee rooms. There was no accommodation whatever for residence.

"The 7½-acres estate plan was laid out with avenues to line up to and into existing roads in Gillingham, and the principal viewpoints would have been a road leading from a central tower into Canterbury-street and in direct alignment with Nelson-road. Another avenue would have led to and joined up into Watling-street at the junction of that road with Canterbury-street. A truly attractive arrangement had this been completed.

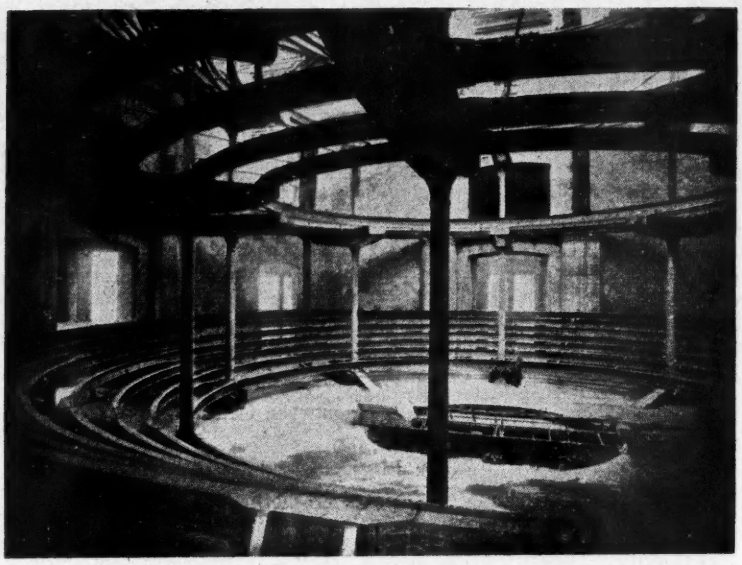
"After plans had been approved by the then Parish Council, the foundations of the building were commenced in 1884, the foundation stone being laid in September, 1885, and building operations were in hand for three years. However, complications arose and through lack of funds, the structure was never completed as planned, although the sum of £30,000 had already been expended, a further £15,000 being required to complete the building."

Drawings on this page show how the structure would have been when completed and as it stands to-day after several unsuccessful attempts at demolition.

A. G. Mason.

4, Castlemaine-avenue,
Gillingham, Kent.

*** Also reproduced on this page is a view showing the steelwork of the interior. This is reproduced from "Chats About Gillingham," by C. S. Leeds, a copy of which has kindly been sent to us by Mr. Henry Bellchambers, of Grays, Essex, who states that many years ago the two top corners of the building were demolished, but the job was soon given up, as the housebreakers could not get the brickwork, which was bedded in cement, away fast enough. We have to thank other readers for writing to us on this subject.—Ed.



Jezreel's Tower. View showing the steelwork of the interior. (Reproduced from "Chats About Gillingham," by C. S. Leeds.)

"The Future of the Private Architect."

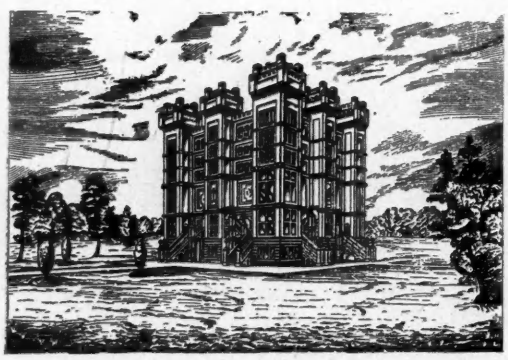
To the Editor of *The Builder*.

Sir,—It seems to me that the future of the private architect is fundamentally worse than that of the private practitioner in any other profession in which æstheticism is involved.

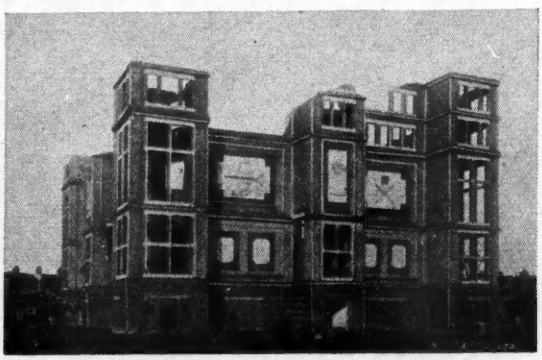
The artist is dependent upon some medium as a means of expressing his individuality to other individuals. In the art of architecture this medium of expression is building construction. It so happens that building construction is in itself a very specialised scientific and technical operation that has far-reaching influence in the life of mankind.

The architect thus finds himself faced with the awkward fact that his means of expression is of more vital interest to the world than the art which it expresses.

In the practice of architecture there probably will always be, to a certain extent, a conflict between the æsthetic and materialistic points of view. The spirit of art is always striving for individual freedom, unfettered by material considerations embodying such matters as mechanisation, standardisation and commercialism.



Jezreel's Tower, as it would have been if completed. From the original plan in the possession of Mr. A. Gibbs.



Jezreel's Tower, as it stands to-day, after several unsuccessful attempts to demolish it.

The world to-day, however, is forced by circumstances to deal with urgent materialistic problems involving the application of the latest scientific and economic resources, with the unfortunate result that the construction of buildings is being given priority over the æsthetics of architectural design.

It is obvious that materialistic work can be brought under legislative control, whereas individual æstheticism cannot be so controlled. This will account for the fact that a great percentage of the enormous amount of building work that requires immediate attention cannot be hindered by competitive selection of individual architects, and is therefore being placed in the hands of national and local government officials.

Architecture in its highest form will surely suffer by reason of so many first-class men being absorbed into the controlled ranks of public officials; but a point which is frequently overlooked by ardent advocates of "private practice" architecture is that it has always been financially difficult, if not impossible, for masses of young men of undoubted abilities and enthusiasm to launch out into the precarious deep waters of master architects unless in possession of considerable capital or strong influential backing.

The tremendous overhead charges of a private practice to-day have increased this difficulty beyond measure.

ARTHUR F. WICKENDEN,
F.R.I.B.A., A.M.Inst.C.E.,
Professor of Architecture,
Fouad I University,
Cairo, Egypt.

World Peace City.

TO THE EDITOR OF *The Builder*.

SIR,—It is noted from *The Builder* of August 21 that the U.N.O. are to build their H.Q. in New York City. This may serve its immediate purpose, but it seems to be too remote from the scene of conflict. They should take a bold step and design and build a World Peace City right in the heart of Europe. This continent lies in ruins, with many of its great cities pulverised to dust and ashes. The inhabitants of these ghost cities have almost returned to the Stone Age. They are living like beasts, without food, shelter, clothing, or hope.

To-day, man is living between two worlds, the one dead and the other not yet born. He has leapt centuries ahead in inventing a world, but has not prepared himself to live in that world. How to rescue this generation from these awful conditions merits the most urgent action by the U.N.O. Mr. Churchill recently put forward a scheme to create out of this chaos a United States of Europe, which must have a capital. The U.N.O. must also have a symbol of unity, and what better symbol could they have than to see built in their midst a glorious new World Peace City, dedicated to the Glory of God and in memory of all those of every nation, race and creed who gave their lives in the defence of freedom everywhere.

Civilisation lies in ruins, but the World Peace City must arise like phœnix from the ashes. It must be built, not for time, but eternity! J. E. RHIND.

Weybourne, Farnham, Surrey.

An Appointment.

MR. P. F. BURRIDGE, F.R.I.B.A., formerly Borough Architect, Stockton-on-Tees, has been appointed City Housing Architect to the City of Lincoln, and will be pleased to receive trade catalogues addressed to the City Housing Architect, Stamp End, Lincoln.

ROAD RESEARCH IN NORTH AMERICA

BRITISH SCIENTISTS' REPORT ON U.S.A. AND CANADA

IN 1946 scientists from the Road Research Laboratory of the Department of Scientific and Industrial Research visited North America to study the progress in applying science to road construction, maintenance, usage and safety. A report on what they heard and saw is published as "Road Research Technical Paper No. 7—Impressions of Roads and Road Research in North America."*

During the war a large part of the Road Research Laboratory's resources was diverted to special problems, and in consequence the development of the programme of road research was hindered, especially in two directions. Preparations for researches into road safety, which were in hand in 1939, were postponed until 1946, while researches into concrete roads were set aside until the later stages of the war. The main purpose of the visit to the U.S.A. and Canada was to ascertain the progress that had been made in these investigations during the intervening years.

Dr. W. H. Glanville, C.B.E., the Director of Road Research, states in a foreword that not all the ideas and practices described are considered suitable to British conditions, nor has America nothing to learn from British practice. Knowledge can be gained from comparison and contrast as well as from imitation.

The Report summarises the information obtained under seven headings: (1) The Organisation and Scope of Road Research. (2) Traffic Studies. (3) Road Safety. (4) Highway Economics. (5) Pavement Design. (6) Materials and Methods of Construction. (7) The Training of Highway Engineers.

Origin and Destination Studies.

Particular attention has been paid in the U.S.A. to studies of traffic movement and operation, and much basic information has been obtained which is taken into account in the design and layout of new roads. An essential part of this work consists in making origin and destination studies to determine the needs of traffic in relation to both existing and projected road systems. These studies have indicated, *inter alia*, the percentage of vehicles in the vicinity of a town requiring to go through the town, for towns of different sizes, so that a logical argument can be developed for or against the construction of ring-roads and by-passes. Studies have also been made of the zone-to-zone traffic inside towns leading to suggestions for road layouts to alleviate or eliminate congestion in the busy districts. Examples of the use made of the origin and destination studies in designing new road systems in towns and rural areas are quoted.

Reference is also made to work being carried out to determine the effect on the geometrical design of the road system of such factors as the speed of vehicles on the straight and on curves, the study of highway capacity, the behaviour of drivers on overtaking, the effect of gradients, etc.

The study of accident causes and prevention has been widely and actively pursued, and comprehensive methods of reporting and studying accidents have led to important conclusions regarding road layout, police enforcement and public education. Many aspects of the safety problem have been dealt with, including the compulsory testing of vehicles and drivers in some States, the adoption of standard headlamps, and the effect of street lighting on night accidents. In many parts, specially trained police officers investigate all the conditions pertaining to every accident in their area. The results of these investigations are examined statistically by the punch-card system, and the results are also made available to the traffic engineers and to the education authorities so that they may take the necessary steps within their own sphere to reduce the frequency and severity of accidents. Certain universities also conduct courses in the various aspects of road safety. An Appendix to the Report sets down the recommendations of a Highway Safety Conference held in Washington during the visit.

The human element, both the driver and the pedestrian, is also the subject of some investigation in America. Driver-training experiments, using drivers with accident records, have proved successful. It is recognised in America that a great deal more research is required into the behaviour and characteristics of drivers. The pedestrian receives special attention and is subject to regulation to an extent quite foreign to this country. In many cities, for instance, the pedestrian must cross streets only at proper crossing places and must wait for his signals in the same way that the driver must wait for his.

Road Economics.

Considerable attention has been devoted in the United States to the economics of highway construction, maintenance and usage, and methods of relating the cost of the road to the benefits accruing from its construction and use are briefly described. State highway officials are considered as managing huge transportation systems. Service must be rendered with one eye watching safety of transportation and the other the cost of transportation. The abstract and introduction of a thesis by Professor Winfrey of Iowa State College, a leading American authority on highway economics, are given as an appendix.

In matters connected with the design of rigid and flexible pavements (*i.e.*, the structure of the carriageway), while it has not yet been possible to place these on a satisfactory scientific basis, nevertheless much thought is being given to them. Some full-scale experiments have been completed and others are in hand, mainly on heavy duty runways, and using moving wheel loads up to 150,000 lb., in which efforts are made to relate the type of construction to the existing soil conditions. Much useful information has been derived from these tests. An interesting aspect of concrete road construction concerns the virtual omission of expansion joints in many thousands of miles of concrete roads in the United States. While there is no unanimity of opinion as to what constitutes a desirable spacing for expansion joints, thought is being given to the problem and many experiments are being carried out; in many States the conclusion has been reached that expansion joints are unnecessary. The Report emphasises that while this may be so in America, where concrete roads are normally laid in the summer, it would not necessarily apply in Great Britain, where many concrete roads are laid in winter.

The work which has been done in America on the use of air-entraining cements in assisting concrete to resist the effects of frost and in allowing the use of unsound aggregates in certain areas is summarised, and the Report also deals with the apparent trends in earthwork manipulation and soil mechanics and in the construction of bituminous roads.

* Published for the D.S.I.R. by H.M. Stationery Office, Kingsway, London, W.C.2, price 1s. 6d., by post 1s. 8d.

THE ARCHITECTURE OF SIR CHRISTOPHER WREN

WREN AS ARTIST AND CONSTRUCTOR

By PROFESSOR A. E. RICHARDSON, R.A.

"ARCHITECTURE" is one of the most comprehensive terms under which it is customary to group every type of building. It is often used so freely that little discrimination is given to niceties of distinction; that is to say, to those differences between fine architecture and mere building. As scholars, however, we are concerned with the idealistic aspect of the first of "the plastic arts."

The theory of architecture, rendered complex by unintelligible references to science, to "functionalism" and structural mysteries, is often productive of new fashions which have no permanent value. We must not ignore the interaction of these various forces. But to assume that they are paramount is dangerous. The chief task of the architect is to create buildings of character; this implies that the architect should be an artist as well as a deviser of construction. The most widely differing theories regarding the economics of architecture have little in common with the æsthetic ideals of the Art. Hence the Babylonian confusion in art circles during the second half of the nineteenth century, and the subsequent abasement of the principles of the art to meet the dictates of commerce.

The period of Wren's activity as an architect covers the last forty years of the seventeenth century and extends for twenty years into the eighteenth. Even his advanced age did not prevent him fulfilling the duties of Surveyor to Westminster Abbey, when supervision of St. Paul's Cathedral, his masterpiece, was denied to him.

The seventeenth century was a period of concentrated energy, the age of Galileo and Grotius, of Rembrandt and Racine. In England, Shakespeare, Ben Jonson, and Inigo Jones gave lustre to Court life of the first of the Stuart Kings. Later came Milton, Wren and Newton to prepare the foundations of the Augustan age of the eighteenth century. Thus, while we may regard the period anterior to the Civil Wars as being supremely romantic, the period after the Restoration of the Monarchy approaches the uniform and the academic. We have, therefore, in the work of Sir Christopher Wren an example not only of the crystallisation of impulses which were internal and domestic but a recognition of contemporary achievement on the Continent. It was the fusion of these influences under the guidance of an architect of great genius that brought about architectural triumphs for which no English precedent existed.

It should be your object to keep in view the fact that this period from the Restoration to the end of the reign of Queen Anne was first a time of compromise and secondly, a period of transition. The epoch of fixity in architectural matters did not arrive till Wren's life work had been accomplished and a fresh outlook pertained. With this in mind we should regard the period not as static but dynamic. Yet the development of Wren's manner in architecture, beginning on individual lines, was destined to become national. The importance of a study of this phase of English architecture to the student cannot be over estimated; we simply must know what goes before in order to comprehend what comes after. At the present time, when many important centres are in ruins, we turn to the past to re-study first principles; we are concerned not with standing still but with momentous changes. In a brief sentence, the problems before us to-day are strangely analogous to those which confronted Wren and his School.

First, it is not difficult for us to see that seventeenth-century architecture, especially in Cambridge, provides a concrete expression of the social life of the time. There is a general correspondence between the story of contemporary architecture and the development of learning. What do we find? At first the merging of Gothic traditions with interpretations of the classical antique derived from the Continent which are grotesque, followed by more exact interpolations of classicality. Finally, the humanism of the baroque, introduced by Wren from Dutch and French sources, which became popular with master builders and others. A tradition was initiated distinguished by the rhythmic disposition of doors and windows, as well as the form of different buildings. The genius of Wren formed a school, and eventually determined a tradition which held all ranks of craftsmen as closely as the members of a college are banded. It was the Great Fire of London, however, that gave Wren the opportunity to exercise his skill. In a word, the man and the moment coincided with dramatic force.

The immensity of the subject precludes more than a superficial discussion of but one part of Wren's work. I must confine myself, therefore, to the Parish Churches. The Great Fire destroyed eighty-six mediæval churches, besides St. Paul's Cathedral. Wren's task was to re-erect fifty-four churches practically on the old foundations; a policy determined by the different parishes. The result justified the various powers of the architect. Wren paid tribute to the genius loci; and while imposing his individuality on the work, evolved buildings in which the steeples were reminiscent of those destroyed. His immediate task was to provide places for divine worship, but he succeeded in endowing London with a skyline of incomparable charm.

Wren as Planner and Constructor.

As a planner of churches Wren favoured a spacious hall with galleries providing a good view of the altar and the preacher. Sometimes he had recourse to a ground plan with one aisle. It was his intention to place the choristers in the organ gallery. Unfortunately nineteenth-century innovations altered these sensible arrangements. It was Wren's masterly devisement of space that proved so acceptable to both clergy and people. Wren's ability as a designer can be traced back to 1663 when Bishop Wren commissioned his nephew to design the new chapel at Pembroke College, Cambridge. This beautiful building exhibits the principles afterwards extended so variously. But it was the construction of the roof of the Sheldonian Theatre at Oxford, measuring internally eighty feet by seventy feet, that gave him the confidence to construct roofs of intricate form over rectangular halls. From Wallis, Professor of Geometry at Oxford, Wren had learned much during his undergraduate days; here, perhaps, is the connection between Wren's love of science and his subsequent success as an artist-architect. His ingenuity in the devisement of roof construction developed with experience, but a long road lay between the simplicity of the construction at Pembroke and the invention of roof systems similar to St. Stephen's, Walbrook, or St. James's, Piccadilly. I shall avoid more than a passing reference to the titanic task of constructing the Dome of St. Paul's. Close study of Hollar's print, showing London after the Fire, enables us to distinguish the ruined walls and towers of the mediæval churches. It was, however, nearly five years before any of these buildings were taken in hand. In the meantime Wren found plenty of employment improvising "tabernacles" as temporary places of worship; one improvisation being that the congregation of St. Martin's, Ludgate, gathered in the new Stationers' Hall until such time as their church should be completed.

The outstanding example of Wren's ingenuity as a planner of churches is beyond question St. Stephen's, Walbrook. Here the architect succeeded in obtaining a cruciform plan by the simple expedient of placing columns to support a central dome and vaulting. The area of the church interior measures eighty-two feet six inches by fifty-nine feet six inches. The dome is shallow and rests like a canopy on the stone columns. A more solid system of construction would have been less effective. Later, at St. Paul's Cathedral, Wren would show how monumental dignity could be attained by solidity of masonry rising upwards from the pavement. Another example of Wren's geometrical skill is the internal treatment of St. Mary Abchurch. Here the pendentives of the dome rest at seven points upon Corinthianesque brackets, tapering to pendants above the pendentives in a modillion cornice. The painting of the dome was entrusted to Sir James Thornhill.

If Wren's church plans were circumscribed by the limitations of sites and in that connection can be associated with their mediæval predecessors, the general conception of all of these buildings both internally and externally belongs to Wren alone.

In the seventeenth century there had developed a reaction to the High Church ritual which Laud had tried to revive. The example of the Protestant Temple built by Saloman de Brosse at Charenton, for the Huguenots, was well known. Here the system of galleries was carried to the extreme. Early in the seventeenth century galleries had been introduced at the west end of Gothic churches; the fitting up of mediæval halls for masques and plays familiarised the practice of side seating. There was also the precedent of the arrangement of stalls and benches in College chapels. Wren now devised galleries on the north and south sides of some churches, and this arrangement became very popular—St. Bride's, Fleet-street, 1680, being the outstanding example. Wren considered this church to be one of his finest works. Alas, enemy action has subjected this magnificent interior to much damage, but you will be gratified to know that at least 60 per cent. of the work can be retained.

Wren's Towers.

If the interiors of the churches which survive express the regard for sumptuous decoration which Wren considered essential, the design of the towers pertains to the first category of seventeenth-century architecture. These features are eloquent not only of the aspirations of the matured Renaissance in England but they have become lyrical of the soul of London. Wren was a master of silhouette; he never quite repeated a theme for a tower or a spire. It is the spontaneity of these fantasies in stone, timber and lead; their

* A lecture given at St. Catharine's College, Cambridge.

perfect poise and elegance, which give quality and charm to the vista.

Study of the spires and towers of Holland, of Denmark and Sweden as well as of the towers of Italian and Spanish churches of the Renaissance does not bring to light many prototypes upon which Wren could have based his schemes for similar features. From the Chiesa St. Agnese at Rome, Wren obtained suggestions for the western towers of St. Paul's, but for the rest of his towers he relied almost entirely on his intuition for geometrical progression.

As Wren advanced from the paths of the amateur to the more academic status of the professional architect, he grasped the virtue of correctness. His aim was the classical ideal, but he was influenced by the spirit of the tumultuous baroque. Perhaps there was a subconscious regard for the adventurous spirit of Gothic building, for it should be remembered that Wren's day was not so far removed from the mediæval as to be entirely free from deep-rooted traditions. In the latter part of the seventeenth century, when matured classical architecture in England was becoming stabilised, it could not avoid inspiration from the Continent. The arts of France were now centralised in Paris, which was the acknowledged Academy for the Arts. Architecture at that time was by no means eclectic. As the art advanced, especially in England, the tentative was gradually abandoned in favour of more circumscribed perfection. Thus the works of those architects who succeeded Wren's School, after the influence of Vanbrugh and Hawksmoor had waned, do not carry the same significance. In the eighteenth century there were numbers of men of second-rate attainments. Yet the effect of late seventeenth-century achievement can be seen in the general levelling up of the art of architecture and the crafts ancillary to it throughout the eighteenth century.

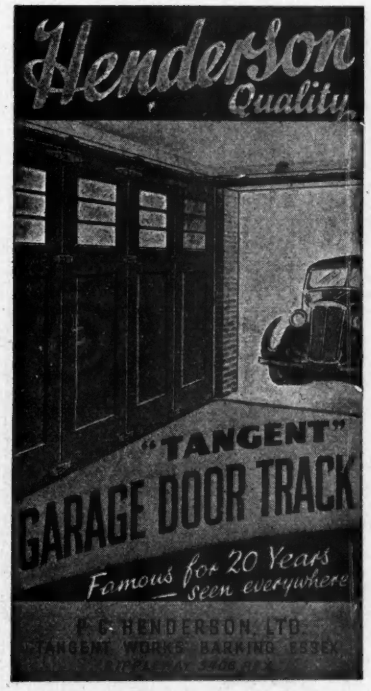
It must be understood that the baroque manner of the later seventeenth century in England owed much to Rubens, Inigo Jones, and the patronage of Charles the First. The Fire of London provided increased opportunities for reinstating the arts and crafts of the whole country. Wren had taught his contemporaries not only to appreciate the value of structural architecture, but to value the lessons of light and shade. He had proved by his exemplars that freedom and plasticity of design were not incompatible with monumental dignity. He had demonstrated that the only limit to an architect's skill was the degree of imagination he possessed. By recognising the inherent qualities of available building materials, Wren accomplished something more; he proved that the classical idiom was not unsuited to a country where sunlight was neither strong nor continuous. The judicious use of warm brick with silvery Portland stone; the variety of domes and spires faired with a dressing of lead, the steep pitched roofs covered with warm tiles, provided harmonious blends of colour. The projections of cornices, the subtlety of panels, the exactness of pilasters and columns accentuated formal arrangements of surfaces; in fact, were productive of effects of rendering even when days were sunless. The weathering of Portland stone and of the mellowed brick used by Wren can be regarded as one of the qualities of his manner of design. I have endeavoured to show that the picturesque combination of different elements, formed the basis of Wren's manner. Then came the study of classical elements as well as the appropriation of motifs from abroad conforming to more strict observance of antiquity. What Inigo Jones had attempted in a limited way Wren increased a thousandfold. The building of Versailles and the great palaces of France, set down so faithfully in the Illustrations of Perelle, also inspired the great architect. But what Wren borrowed he changed, recasting his themes to accord with the classical idiom. Thus was evolved the matured Renaissance of the late seventeenth century.

The closing years of Wren's life coincided with the greatest period of architectural uniformity Western Europe has known. Fresh influences were now at work evolving the baroque of Austria and inspiring in Germany pretentious designs for palaces; the latter in due course reacting on Georgian architecture, as is evidenced at Houghton, in Norfolk. In part, this was due to the enormous influence of the architects engaged on the gigantic palace of Versailles.

Architecture in the eighteenth century was made to grow, it was to become subject to constant fertilisation, but the tree was substantially the one planted by Wren, despite graftings, prunings and dismemberment. Under the Hanoverians social conditions were changing; learning and the arts became more diffuse. Royal patronage which distinguished the House of Stuart now devolved to aristocratic minds which encouraged dilettantism.

Wren has been described as a courtly architect, a High Churchman and a great gentleman. So many encomiums have been bestowed on his qualifications as a scientist that his skill as an artist-architect has been somewhat overshadowed. But his works furnish evidences of a grasp of the technique of design which is as remarkable as it is astonishing in its results. In fact, the whole of eighteenth-century architectural theory rests securely on the foundations prepared by Sir Christopher Wren. Even in the first half of the nineteenth century, when the leading architects were divided into rival factions, the classicists were endeavouring to return to the principles advocated by Wren. Professor Cockerell was destined to become the leading exponent, as can be seen in the treatment of the staircase at the FitzWilliam Museum, and in the façade of the Old University Library, Cambridge, while the interior of Hanover Chapel, Regent Street, owed much to Wren's conception of a galleried church. I have not deemed the occasion of this lecture to be suitable to an outpouring of all facts and details of Wren's work. We should need 60 lectures, and not the limit of 60 minutes to engage in a summary of the great architect's activities. For further study, I refer you to the sumptuous Centenary volume of Wren's Life and Work, produced by the Royal Institute of British Architects, and the many excellent monographs dealing with St. Paul's Cathedral and the City Churches as well as the volumes printed by the Wren Society.

In recent times it has not been uncommon to indulge in dreams of a new system of architecture, dreams disclaiming acquaintance with historical precedents, forcing utilitarian conceptions as being more consistent with economic needs. Public opinion, seldom at fault, challenges this biased viewpoint and furnishes a striking example of the reaction which the war has produced. It is obvious that the foremost quality to be aimed at is stability of manner. The formula for this lies deep and is not to be gained by superficial debate.



BOOK REVIEW

Trees for Town and Country. By Miss Brenda Colvin, F.I.L.A. London: Percy Lund, Humphries and Co., Ltd. Price 25s.

This is a well-produced quarto book illustrating with excellent photographs 60 trees, each of which has an accompanying page of description and outline drawings (by S. R. Badmin), the intention being to offer guidance in the selection of trees for varying conditions of soil and climate. The choice has been made by the Association for Planning and Regional Reconstruction in co-operation with the Royal Botanic Gardens at Kew, the Institute of Landscape Architects and the Roads Beautifying Association.

Apart from their intrinsic beauty, trees fulfil a valuable function in affording an ameliorating influence on the development of sites for both urban and rural purposes, and with this in view it is important to select those species that will be best adapted to the situations and surroundings where they are to be planted. It is, moreover, important to know the rate of growth, the ultimate size, and other factors, which are indicated in the descriptions and drawings this book provides. In each case notes are included on planting, growth, soil, climate or habitat; these are most useful in determining what may best be chosen to group with buildings or to soften the asperities of main traffic routes.

The selection is mainly composed of the larger forest trees, nearly all of which are included, but some of the smaller ones reaching heights of from 20 to 40 ft. are shown, mainly on account of their interest in bearing flowers, berries, or striking foliage character. It is not easy to draw the line between the smaller trees and garden shrubs, and the list might have been extended to include others, but this would open a wider field than the scope of the book was intended to cover. The well-chosen photographs have been gathered from various sources and include 30 specially taken for this publication by Norman Westwood, and the preparation of the book had also the services of Miss Jaqueline Tyrwhitt.

H. V. L.

LAW REPORTS

ANCIENT LIGHTS DISPUTE

CHANCERY DIVISION OF THE HIGH COURT. Before MR. JUSTICE ROMER.

Corbett v. Rigg.

In the Chancery Division of the High Court Mr. Justice Romer heard an action by Miss Dorothy May Corbett, the owner and occupier of 14, Park-street, Kendal, against Mr. Robert Rigg, a builder, of Milnthorp-road, Kendal, for an injunction to restrain him from erecting a building on the south side of her house, which would obstruct the access of light to certain of her windows, which, she claimed, were ancient lights.

Plaintiff's case was that her house was erected 60 years ago. In 1941 the defendant acquired the adjoining land, and when, in 1946, she learned he was going to build on the site, she intimated to him that he was not to infringe her ancient lights, as the building he was erecting was then only about 11 ft. from the windows. The defendant had erected his walls to a height of 10 ft., and upon the facts of the case being pointed out to him, he had given an undertaking to stop work until the result of this action.

Miss Corbett gave evidence in support of her case, and alleged that the present height of the defendant's wall had caused a diminution of light to her living-room. Her work was that of a shorthand-typist and teacher of shorthand, and even now she had to use artificial lighting.

Mr. G. N. Drewitt, surveyor, of Kendal, was plaintiff's witness.

Defendant, in his defence, challenged the plaintiff's claim that the lights were ancient lights, and denied that his building when erected would materially interfere with plaintiff's comfortable uses of her rooms.

Mr. J. E. Dyson, architect, of Kendal, was defendant's witness.

It was intimated that plaintiff did not now press for the demolition of defendant's erection, but only sought an injunction to restrain it being built any higher.

His lordship held that plaintiff's windows were ancient lights. He was satisfied that the light coming to the plaintiff's windows had been substantially interfered with and he granted an injunction restraining the defendant continuing the erection of a building which would prove a nuisance to the plaintiff.

OBSTRUCTION OF LIGHT

CHANCERY DIVISION OF THE HIGH COURT. Before MR. JUSTICE ROMER.

Robinson v. Froud.

In the Chancery Division of the High Court Justice Romer had before him an action by Mrs. A. Robinson, of 226, Woolwich-road, Abbey Wood, London, against Mr. E. H. Froud, of Woolwich-road, seeking a mandatory injunction calling upon him to demolish a garage he had erected on the west side of plaintiff's house, on the ground that it had obstructed the right of access of light and air to plaintiff's windows on that side of her house.

Mrs. Robinson's case was that the defendant had put up an 11 ft. 6 in. high garage only 3 ft. 6 in. from her side wall, where she had a window only a few feet high.

Defendant denied the obstruction alleged and pleaded that the plaintiff now enjoyed sufficient light for all ordinary purposes. He also pleaded her delay in bringing her action barred her claim.

His lordship held that the erection of the garage had resulted in a diminution of light to plaintiff's rooms, and that this constituted a legal injury. He therefore made an order on the defendant to pull down the garage in so far as it constituted a nuisance and obstruction to the plaintiff's light. The plaintiff would be granted an injunction restraining defendant from interfering with plaintiff's right of light and air.

M.O.H. LOANS

The following loans were sanctioned by the Ministry of Health during the quarter ended June 30 to local authorities in England and Wales :—

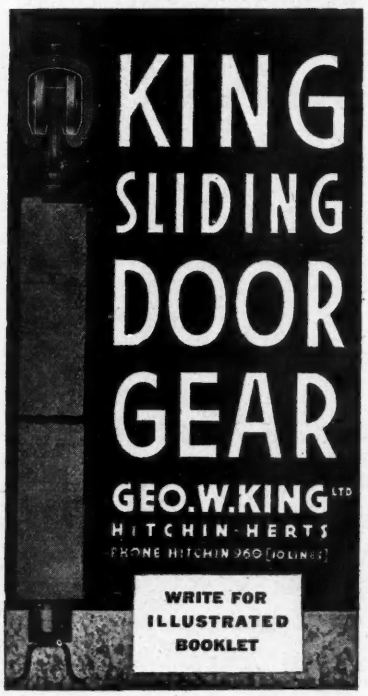
	£
Housing	41,753,977
Municipal Services (including clinics, sanatoria and mental hospitals)	539,352
Gas Works	1,551,723
Police Purposes	45,087
Swimming Pools, Recreation Grounds, Open Spaces, etc.	129,838
*Water Supply	1,499,054
*Sewerage and Sewage Disposal	726,480
Refuse Destruction	71,003
Education Services (including libraries and museums) ...	4,714,209
Roads and Bridges (including private street works) ...	280,324
Town and Country Planning...	250,208
Other Services (including loans to defray contributions, etc., under War Damage Act, 1943)	1,001,123
Total	£52,562,378

* These are net figures after allowance has been made for capital grants and contributions deducted from the capital cost before loan sanction.

The gross costs of schemes are :— £1,537,154 for water supply and £787,300 for sewerage and sewage disposal.

Employment in the Building Industry.

The latest figures issued by the Ministry of Labour and National Service show that the numbers employed in the building industry in June, 1947, were 1,300,000. This compares with 1,290,000 in May, 1947, and 1,310,000 in mid-1939.



PRISON BUILDING

LARGE PROGRAMME OF WORK

From a Correspondent.

THE latest Report of the Commissioners of Prisons and Directors of Convict Prisons shows how much work is awaiting the building industry in order to cope with the increased prison population of this country. At the end of the war the Director of Works had to take on the unprecedented task of producing at least six more Borstals and five more prisons simultaneously. East Sutton Park, near Maidstone, Kent, has now been converted into a Borstal Institution for Girls. At the Lowdham Grange Borstal Institution three of the four houses, the administration block and an industrial workshop are all completed. Several prisons, including Dartmoor and Winchester, have been provided with reconstructed and modern kitchens.

One of the most difficult problems in prisons is the modernisation of the sanitation, which, in many cases, was unsatisfactory. The sanitary services have been greatly improved in the men's prisons at Dorchester, Leicester, Stafford, Exeter, Parkhurst, Durham, Oxford, Wandsworth, Lincoln and Maidstone, and in the women's prisons at Manchester, Birmingham and Holloway. But all prison visitors agree that many more improvements will be necessary.

One of the greatest difficulties in our prisons is that of replacing existing out-of-date locks by improved patent locks, so as to obviate the necessity of carrying large bunches of heavy keys and also to improve security. Locks, however, have been almost unobtainable and all replacements have been delayed. Another problem which has affected the building industry was caused by the substantial falling off of work for Government Departments at the end of the war. Other sources of work and means of employment had to be devised and this meant the building of workshops. The workshops at Durham, Holloway, Cardiff, Wakefield, Gloucester, Birmingham, Lincoln and Nottingham have been enlarged and improved.

This is the short-term policy for building in our prisons. The long-term policy is referred to in a memorandum by the Prison Commissioners, published as an appendix to the Report. This states that plans for the building of new prisons depend on three factors, first, possible changes in the classification of prisoners; secondly, the unpredictable fluctuation in the level of the prison population, and thirdly, the number of years which will elapse before prisons come high enough in the scale of national priorities to enable a serious start to be made with a large-scale rebuilding programme.

The conclusion reached by the Commissioners is that they feel it safer to assume that their plans must be made within the limits of the accommodation now available, supplemented where necessary by the acquisition of surplus camps and hostels. The Commissioners do not entirely despair of the existing prisons, but believe that they are capable of modification, which will bring them in many respects up to an acceptable level.

Timber Control Appointments.

The Board of Trade Timber Control announces that in the Plywood Department Headquarters, Sir Leonard Paton has been appointed Deputy Controller, Mr. H. G. C. Townsend has been appointed Senior Assistant Controller and Mr. S. C. Rasmusen has been appointed Assistant Controller.

HANDBOOK ON ENGINEERING ECONOMICS

A GUIDE FOR STUDENTS

A HANDBOOK, "An Introduction to Engineering Economics for Civil Engineering Students," has been issued by the Post-War National Development Committee of the Institution of Civil Engineers primarily for civil engineering students to enable them to appreciate more fully the application of economics to their professional work. Engineering economics may be generally defined as the art of comparing values. Its mechanism consists in the application of systematic methods of assessment whereby equitable comparisons can be made. Its objective is the selection of projects and designs which are technically sound and financially advantageous.

In the majority of problems relating to planning—*i.e.*, location, layout and design of civil engineering projects—there are generally alternative ways of achieving the same purpose. The important point to be remembered is that the mechanism of engineering economics should be used before commitments in respect of projects or designs are made.

The handbook deals first with the promotor's interest in economics and then refers to the necessity for an understanding of the fundamental mechanism of finance if the engineer is to apply his technical experience with economic advantage.

In connection with the mechanism of valuations, the assessment of values must take into account both cost and life. Considerations of cost alone, with a disregard of life, may result in mere cheapness which is not necessarily a true criterion of value. Various factors which have to be taken into consideration, such as depreciation, maintenance, running costs, overhead charges, etc., are discussed.

After dealing with the civil engineer's use of the economic mechanism in connection with requirements, planning and design, construction, guarantees and tolerance, tender particulars and mathematical solutions, a number of problems and examples are given and solutions are worked out so that the student can appreciate how the principles laid down in the handbook should be applied to meet various definite problems.

The handbook ends with some valuation tables and an appendix dealing with mathematical derivations. It is issued by the Institution at the price of one shilling.

OFFICIAL NOTIFICATION

Ministry of Works, North Midland Region: A New Address.

The North Midland Regional Office of the Ministry of Works has been moved, as from August 26, from Clifton-boulevard, Nottingham, to Block 4, Government Buildings, Chalfont-drive, Western-boulevard, Nottingham. Telephone number, Nottingham 77711; telegrams, "Travaux, Nottingham."

The Regional Supplies Officer and the Regional Works Transport Officer, who had separate offices, have also moved to the new address.

BOOKS RECEIVED

PAVIOR AND STREET MASON. By J. H. Arnison. (London: Crosby Lockwood & Son, Ltd.) Price 5s.

HOME-MADE HOME. By Ronald Duncan. (London: Faber & Faber, Ltd.) Price 10s. 6d.

PLANNING AND DESIGN OF COVERED BATHS. By J. A. Davenport. (Liverpool: John A. Davenport.) Price 7s. 6d.

THE BUILDING EXHIBITION

MANY SPECIAL FEATURES

THE Building Exhibition, to be held at Olympia, London, from November 19 to December 4, is to include, as in recent years before the war, a number of non-commercial exhibits of general public interest. These exhibits, which will nearly fill the Grand Hall Gallery, will include the stands of the Department of Scientific and Industrial Research, the Council of Industrial Design, the London Brewers' Council, who will point the way to "better public-houses," and the building trades training schools. The R.I.B.A. is to have a clubroom in the gallery, and three special exhibits have been arranged by the Exhibition organisers. The first of these, entitled "Europe Renewed," will consist of photographs and models of building construction in progress or planned in Continental countries, including Belgium, Czechoslovakia, Holland, Norway and Poland. The second, entitled "This was London," will be a gallery of pre-war drawings and sketches of some of the beautiful buildings which have since been damaged or destroyed by enemy action. These are being assembled by Mr. Edgar W. Pitt, who himself made some of the drawings in the early days of the war in the fear that the buildings might be victims of the bombing.

Another striking exhibit, in line with some of the pre-war exhibits in the Building Exhibition which shocked public opinion into a realisation of slum conditions, will be a series of life-size backyards, the extremes being a slum backyard of 1910 and the backyard of 1950 as visualised by the L.C.C.

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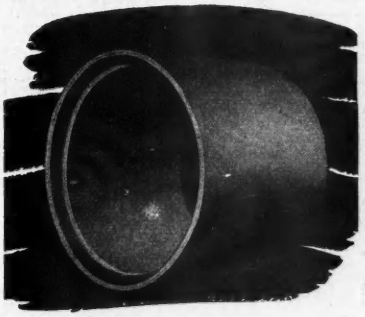

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NEWS ITEMS

Payment for Public Holidays, Scotland.

Mr. D. McCowan Hill, Secretary of the Scottish National Building Trades' Federation (Employers), writes as follows: I have been informed that contractors have received intimation from the Building and Civil Engineering Holidays with Pay Management Company that a scheme for the payment of public holidays will operate as from September 1, 1947. I have to advise you that this does not apply to Scotland as far as the building industry is concerned. The Operatives have asked that the introduction of payment for these holidays should be considered by the Scottish National Joint Council for the Building Industry, and it is anticipated that a meeting will be held in September.

Carving in Wood and Stone.

A class is to be opened at the City and Guilds School of Art, Kennington, London, in connection with the scheme of giving vocational training for carving in wood and stone. Owing to the necessity for making structural alterations to the school studio, training will not begin until the school reopens in September. The number of training places in this course is limited, and at present will be confined to wood-carving, but the Ministry of Labour is actively considering the possibility of extending facilities in London and the provinces.

Record Output of Ironfoundries.

The output of iron castings in the second quarter of this year amounted, according to the Council of Ironfoundry Associations, to 714,787 tons, which is equivalent to an annual rate of production of 2.86 million tons. This is the highest output which has ever been officially recorded. It has been achieved in spite of shortages of skilled labour and essential materials (foundry pig-iron and cupola coke). If these handicaps could be removed, to allow the existing capacity of the ironfounding industry to be fully employed, even higher outputs could be reached.

New Escalator at Bank Station.

A new escalator at the Bank Central Line Station came into operation on Monday, August 25. This additional escalator, 103 ft. long, 51½ ft. deep, making a total of three at one of the most heavily used stations on the Underground, will improve travel conditions by speeding the flow of traffic. It is situated between the two existing escalators, is reversible and will run upwards during the morning peak, and downwards during the evening peak. The three pre-war escalators were all destroyed when a heavy bomb was dropped on the station in January, 1941.

Gauge and Tool Makers' Exhibition.

Following the success of the first Gauge and Tool Makers' Exhibition, held at the New Hall, Vincent-square, London, in January, 1946, the Council of the Gauge and Tool Makers' Association has decided to arrange another exhibition in January/February, 1948. It has been agreed on this occasion to invite the co-operation of the National Federation of Engineers' Tool Manufacturers; and, with that object in view, the Old Hall, as well as the New Hall, of the Royal Horticultural Society, Vincent-square, S.W., has been reserved. The total area of the joint exhibition will be 32,000 sq. ft., and the exhibition will be open daily from Monday, January 26, to Friday, February 6, 1948, excluding Sunday, February 1, but including all day Saturday, January 31. As at the previous exhibition, the stands will be of uniform size and design throughout. Further particulars are available on application to the Gauge and Tool Makers' Association, Standbrook House, Old Bond-street, London, W.1. Telephone: Regent 3451-2.

Stained Glass Window.

A stained glass window, depicting St. Luke, patron saint of healing, is to be erected in Surbiton Hill Methodist Church in memory of the late Mr. H. S. Durbin, Charter Mayor of Surbiton.

Wallboard Merchants' Association.

Mr. Frank Bateson, of Messrs. Gabriel, Wade and English, Ltd., was, at a recent meeting of the Executive Council of the Wallboard Merchants' Association, elected a member of the Council in the place of the late Mr. S. J. Williams, J.P.

Housing on U.N.O. Agenda.

Housing and welfare work are among the main problems on the draft agenda for the United Nations' Social Commission's second session which opened at Lake Success on Thursday, August 28. The Commission plan to carry on the work started by U.N.R.R.A. in devastated areas.

Crawley not to be a "Dormitory."

Mr. Lewis Silkin, Minister of Town and Country Planning, with Sir Thomas Bennett, F.R.I.B.A., chairman, and Mr. Lawrence Neal, vice-chairman, of the Crawley Development Corporation, met on August 16 representatives of local authorities in the designated area of the new town. Mr. Silkin said he did not want the new towns to be mass-produced, and to be alike, but that each should have its own particular characteristics. The new Crawley must not be a dormitory town. They wanted to thin out Greater London, Croydon, and other congested areas.

Slate Quarries to Reopen.

After six years of idleness the Scottish slate industry has been reorganised with the assistance of a £125,000 State loan. Ballachulish slate quarries, the largest in Scotland, and the Balvicar slate quarries, near Oban, are to resume production and will be the first quarries to do so. Other quarries are expected to reopen in the next few months. At Ballachulish and Balvicar new plant and machinery have been installed, and important contracts for slates for housing programmes have already been secured. Plans are being considered for the development of the industry on a scale greater than ever before.

British Standards on Timber.

The Timber Development Association has just published a complete list of all the British Standards relating to timber, its treatment, derivatives and woodworking accessories. These standards are listed under the following subjects:—

Timber Grading; Nomenclature; Preservation; Processing.

Surface Treatment, including fillers, paints and distempers, stains and varnishes.

Utilisation, including aircraft, boxes, building materials, fibre boards, fire resistance, floors, partition blocks, plastering laths, roofs, stairs, wood trim, drawing office equipment, joinery, marine craft, telegraph and transmission poles.

Woodworking Accessories, including adhesives, bolts, hardware, nails and screws.

Some 120 B.S.I. standards have been included in this new Timber Information Leaflet No. 31, which should be of great value to timber merchants, architects, engineers, builders, consumers of timber, etc. Copies can be obtained on application to the Timber Development Association, Ltd., 75, Cannon-street, London, E.C.4.

Monument to Raid Victims.

A massive stone monument to men and women all over the world who died in air raids has been started in New York by Benno Elkan, a German-born sculptor, who considers that London would be "the best site for the monument, either in the centre of the town or in the shell of a destroyed church."

The Modern Conception.

One of the questions set in an examination paper in the West of England was: "What is the difference between an architect and a builder?" A Bristol schoolboy answered it as follows: "An architect is a man who makes plans for building houses, a builder is a man who used to build them on his own."

Furnished Rooms at Woman's Fair.

At Woman's Fair Exhibition, which will be held at Dorland Hall, Regent-street, London, S.W.1, from September 23 to November 22, three furnished rooms will be designed by leading experts. The rooms featured are a living-room, a nursery and a kitchen The living-room will be furnished with antiques, mostly of the Queen Anne period. The nursery will include children's furniture of a light steel construction with enamel surfaces, and the kitchen will be composed of fitments of the latest design. The equipment includes a double cooker, a refrigerator with an exceptionally large cubic capacity of 8 ft., a washing-machine which uses compressed air instead of paddles, a Perspex sink, and a dining-bar for family meals. This unit can be varied to fit a room of any shape or dimension.

Woman's Fair Exhibition will point the way ahead from austerity, and will show some of the many things of charm and beauty sacrificed during the years of the war. Its many sections include the Hall of Beauty, a Bridal Feature, the Hall of Fashion, Leisure Crafts, and Fashion through the Ages.

The Hall Mark AYGEE of Craftsmanship

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London Timber Trade Golfing Society:

We are informed by the secretary of the London Timber Trade Golfing Society that entries for the Autumn Meeting at Hadley Wood on Thursday, September 11 next, are to date a little disappointing (presumably owing to the holidays). It has therefore been decided to extend the closing date for entries from August 28 to Tuesday morning, September 2, 1947.

TRADE NEWS

A New Telephone Number.

The new telephone number of London Demolition Co., Ltd., is Hounslow 7051 (3 lines).

Change of Address.

As from Monday, August 25, the office of Precast Utilities (London), Ltd., is removed to their works at Essex-road, Hoddesdon, Herts. Telephone: Hoddesdon 2247.

Plumbing for Schools.

A booklet which has been prepared as a guide to the economical use of materials and skilled labour for the installation of plumbing to schools has been published by the Lead Industries Development Council, Eagle House, Jermyn-street, S.W.1, as Bulletin No. 116, "Plumbing for Schools: the Use of Lead Pipe." Two photographs of typical examples of pipe work for ranges of w.c.s and five full-page detailed drawings of lavatory basins, w.c.s, sinks, urinals and laboratory sinks give a clear indication of the compact arrangements possible by the use of lead pipe. The drawings are dimensioned to give information on the use of standard fittings in conjunction with the off-site preparation method of plumbing. The use of alternative jointing methods for supply and waste pipes is described.

THE SCOTTISH BUILDER

NEW BUILDINGS

Glasgow.—Storage buildings to be erected by Produce and Property, Ltd., Montrose-st., Glasgow; extensions, etc., for Hay and Co., Ltd., for which the architects and principal contractors are William Baird and Co., Ltd., Temple Iron Works, are to be carried out at Fort-st.; extensions, etc., proposed for Cooper, MacDougall and Robertson, Ltd., for which the architects are F. A. MacDonald and Partners, 11, Woodside-terr., are to be carried out at Lothian-rd.

Glasgow.—School buildings proposed at Our Lady of St. Margaret's, for which the architect is John MacNab, 129, Bath-st., Glasgow, and the same at Allan Glens Senior School; alterations and additions proposed at Victoria Crescent-rd., for which the architect is John S. Boyd, 248, West George-st., Glasgow; The North British Storage and Transport, Ltd., to have 69 to 71, West-st. reconstructed with additions, for which the architect is Mr. J. T. King, 55, West Regent-st., Glasgow.

Mossend.—Commercial garage, workshops, etc., for Mitchell and Carlake are to be erected at Brigbrae for which the architects are Paterson Bros., 10, Milnerwood-dr., Mossend.

FUTURE CONSTRUCTION

CONTRACTS OPEN

For some contracts still open but not included in this list see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

SEPTEMBER 5.

†***Beds. C.C.**—Nurses' recreation room, etc., at St. Peter's Hospital, Bedford. County A., Shire Hall.

†**Evesham R.D.C.**—24 houses at Nerton site. Pemberton and Bateman, Architects, 29, High-st., Evesham. Dep. £2 2s. Tenders by September 25.

SEPTEMBER 8.

Beckenham B.C.—Converting 45, Rectory-rd. into four self-contained flats. J. Dove, B.E. and S. Dep. £2.

Brentford and Chiswick T.C.—60 flats and estate office at Edensor-gdns., Chiswick. B.E. and S. Dep. £5 5s.

Chertsey U.D.C.—Conversion of "Grove End," Church-rd., Addlestone, into three flats. E. and S. Dep. £1 1s.

Felling U.D.C.—50 Airey rural houses at Highlanes estate, Heworth. Housing A., Council-bldgs., Sunderland-rd., Felling. Dep. £2 2s.

King Edward VII Welsh National Memorial Association.—Alterations at Pontywal Mansion, the South Wales Sanatorium, Talgarth. Thomas and Morgan and Partners, 23, Gelliwastad-rd., Pontypridd. Dep. £3 3s.

Loughborough T.C.—70 houses at Ling Farm estate. W. Granger, B.S. Dep. £2 2s.

Ringwood and Fordingbridge R.D.C.—(a) One pair of cottages; (b) road and drainage works at Mintey's Farm, Rockbourne. F. Andrews, Chartered Architect, 45, High-st., Ringwood. Dep. £2 2s.

Watford R.D.C.—14 perm. houses, nr. Willoway, Radlett.C. Dep. £1 1s.

SEPTEMBER 9.

Cheshire C.C.—Kitchen and dining-room at Little Sutton C.E. School. E. M. Parkes, County A. Dep. £2 2s.

Cheshire C.C.—Kitchen and dining-room at West Kirby Grammar School for Girls. E. M. Parkes, County A. Dep. £2 2s.

Chester County C.—Hutted kitchen and dining accommodation, St. Joseph's R.C. Sch., Sale; hutted classroom accommodation, Hazelgrove Sch.; completion of gymnasium, Co. Gram. Sch. for Girls, Sale. County A. Dep. £2 2s.

Elham R.D.C.—4 pairs of Airey houses at Woodlands-rd., Lyminge. C. Dep. £2.

SEPTEMBER 10.

Herne Bay U.D.C.—6 houses at Osborne-gdns. W. W. Smith, M.I.Mun.E., S. Dep. £2 2s.

†***West Suffolk C.C.**—Alterations and additions at St. Mary's Hospital, Bury St. Edmunds. County A., Westgate House, Bury St. Edmunds. Dep. £2 2s. Tenders by October 8.

†***West Sussex Standing Joint Committee.**—(1) 1 pair of police houses at Comptons-la., Horsham (job No. 497); (2) 3 pairs of police houses at Littlehampton (job No. 91); (3) 2 pairs of police houses at Sackville-cres., Worthing; (4) 2 pairs of police houses at "The Drive," Shoreham-by-Sea (job No. 70). F. R. Steele (F.), F.S.I., County A., County Hall, Chichester.

SEPTEMBER 11.

Caernarvonshire C.C.—(a) Erection of Medical Annexe at County Hospital, Bangor; (b) erection of nurses' quarters adjoining. County A., County Offices, Caernarvon. Dep. £2 2s. each job.

Derby T.C.—196 houses at site No. 13b, Chaddesden Hall estate in 3 contracts and 30 houses at site No. 18b, Wood-rd., Chaddesden. T. W. East, Boro' A. Dep. £2 2s.

Northwich R.D.C.—20 Airey houses off Whitlows-la., Moulton. E. and S. Dep. £2 2s.

Penybont R.D.C.—Public conveniences at Southerndown, Ogmore-by-Sea and Llangynwyd. S. Dep. £2 2s.

SEPTEMBER 12.

Kingswood U.D.C.—Temporary offices at Council Yard. S. Dep. £2 2s.

SEPTEMBER 13.

†**Aireborough U.D.C.**—38 Airey houses at Haw-la., Yeadon. F. Tunnell, B.Sc., A.M.Inst.C.E., E. and S.

Barnsley T.C.—6 police houses at various sites. B.E. Dep. £2 2s.

Salford C.C.—New domestic science block and canteen, Leicester-rd., Mod. Sch. for Girls. City E. Dep. £5 5s.

Weymouth and Melcombe Regis B.C.—Public conveniences, Upwey and Overcombe. Crickmay and Sons, 23, St. Thomas-st., Weymouth.

SEPTEMBER 15.

Blackwell R.D.C.—56 houses, Town-st., Pinxton. Architect and Housing Superintendent, 100, Chesterfield-rd. South, Mansfield Dep. £2 2s.

***Chester T.C.**—2 boiler houses for central heating and various alterations and additions at Sealand House, Sealand-rd. City E. and S. Dep. £1. 1s.

Chester T.C.—Two two-classroom blocks, dining-room and kitchen and stores at Blason school; dining room and kitchen and stores at Newton school; kitchen and stores at Lache school. City E. and S. Dep. £1 1s.

PRICES OF MATERIALS.

Paper Bags and non-returnable Jute Sacks.

THE Cement Marketing Company, Ltd., announce that, owing to the increased cost of kraft paper, it has been arranged with the Ministry of Works that on and after Wednesday, August 20, the charge for paper bags will be increased by 1s. net per ton of cement—i.e., from 9s. to 10s. net per ton.

As non-returnable jute sacks are chargeable at the same rate as paper bags, this increase of 1s. net per ton of cement is also applicable to non-returnable jute sacks.

The present charge of 6d. net each for individual paper bags and non-returnable jute sacks for supplies up to one ton of cement, however, remains unchanged.

In view of the above, there will be a corresponding increase from 7s. to 8s. net per ton of cement in respect of "417," "Aquacrete," red, buff and khaki "Colorcrete."

"Snowcrete," the price for which includes packages, will be increased by 1s. per ton.

***Glanford Brigg R.D.C.**—8 houses at Alkborough, Lincs. Buttrick and Buttrick, chartered architects, 43, Oswald-rd., Scunthorpe. Dep. £2.

Ilkley U.D.C.—8 old persons' bungalows. A. Skinner, M.Inst.Mun.E., Town Hall. Dep. £2 2s.

Ossett T.C.—10 Airey rural houses at South Parade. B.S. Dep. £1 1s.

SEPTEMBER 16.

Derby T.C.—2 pairs of police houses at Kingsway. T. W. East, Boro' A. Dep. £2 2s.

Warwick C.C.—Two police houses and office at Alcester-rd., Stratford-on-Avon. C. H. Elkins (L.), County A., Shire Hall. Dep. £2 2s.

SEPTEMBER 17.

Camberwell B.C.—Rebuilding four houses at 10-16, Casino-av., and block of six flats at 62-72, Cassino-av. Wm. Bell, B.E. and S. Dep. £2 2s.

Skegness U.D.C.—58 houses at Church-la. estate. S., Town Hall. Dep. £3 3s.

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SEPTEMBER 18.

Hatfield R.D.C.—12 perm. houses, 2 blocks of 4 flats each, Birchwood Estate. J. H. Parker (A.), North-pl., 82, Great North-rd., Hatfield. Dep. £2 2s.

SEPTEMBER 19.

***Truro T.C.**—24 houses at Malpas-rd. City E. and S. Dep. £3 3s. (crossed cheque).

SEPTEMBER 22.

East Ham C.B.—Conversion of existing building into community centre. B.E. Dep. £2 2s.

***Huntingdon C.C.**—Kitchen and dining room for Eynesbury C. of E. School, St. Neots. T. H. Longstaff, County S. and A., Walden House, Huntingdon.

SEPTEMBER 23.

Hants C.C.—Infants' school at Portchester. S. Low, County A., The Castle, Winchester. Dep. £1 1s.

OCTOBER 1.

***Hampshire C.C.**—Adaptation of Park House, Gosport, as a hospital. S. Low, County A., The Castle, Winchester. Dep. £1 1s.

OCTOBER 3.

Blaby R.D.C.—146 houses (twelve groups) at various sites. E. and S. Dep. £2 2s.

OCTOBER 8.

Stretford B.C.—Additional lavatory accommodation, Town Hall. A. H. Perry, B.S. Dep. £2 2s.

OCTOBER 13.

Solihull U.D.C.—Erection of Hatchford Brook Junior School and Ulverley Junior School. W. Maurice Mell, C.

Tees Conservancy Commissioners.—Two reinforced concrete jetties, Teesport. Messrs. Rendel, Palmer and Tritton, 55, Broadway, Westminster, S.W.1. Dep. £20.

NO DATE.

***Blackburn R.D.C.**—6 Airey houses at 2 sites. W. Johnston, chartered architect, 42, Wellington-st. (St. John's), Blackburn. Dep. £2 2s.

MISCELLANEOUS

SEPTEMBER 8.

Rowley Regis B.C.—Dismantling 2,600 shelters. B.E. and S.

Wolverhampton C.B.—Demolition of water tanks and shelters. B.E. Dep. £2 2s.

Workington T.C.—Construction of two million-gallon capacity service reservoir, etc. Herbert Lapworth Partners, 65, Victoria-st., Westminster, S.W.1. Dep. £5.

SEPTEMBER 10.

Wandle Valley Joint Hospital Board.—Retiling roofs of Cottages 1 and 2, Isolation Hospital, Mitcham Junction, Surrey. C.

SEPTEMBER 11.

Lancaster C.C.—Repointing exterior of Town Hall. C.E. Dep. £1 1s.

SEPTEMBER 15.

Newcastle-upon-Tyne C.C.—Supply, erection of steel-framed transit shed, No. 22 Berth, Newcastle Quay. City E.

Orpington U.D.C.—Demolition of trench shelters. E. and S. Dep. £2 2s.

PAINTING, ELECTRIC LIGHTING, MATERIALS, ETC.

SEPTEMBER 8.

***Chertsey U.D.C.**—External painting and minor repairs to 64 houses. C.

SEPTEMBER 9.

Stourbridge T.C.—Internal repair, painting and decorating at 278 houses at High Park estate. B.E. and S. Dep. £2 2s.

SEPTEMBER 10.

Ware R.D.C.—External painting of houses. S.

ROADS, SEWERAGE AND WATER WORKS

SEPTEMBER 8.

Ashton-in-Makerfield U.D.C.—Sewer reconstruction, scheme No. 2. S. Dep. £3 3s.

Dun Drainage Commissioners.—New culvert, Whitecross Bridge, Aldwick-le-street, Doncaster. C. E. Farran, M.I.C.E., 1, Prince's-st., Doncaster. Dep. £2 2s.

Keighley T.C.—Sewerage and road works at Bracken Bank estate. B.E. and S. Dep £2 2s.

Liverpool Corp. Water Works.—Laying 7 miles 39-in. steel pipes and ¼ mile 42-in. steel pipes.

Vyrnwy Aqueduct. Water Engineer, 55, Dale-st., Liverpool 2. Dep. £5 5s.

Llandudno U.D.C.—Construction of reinforced concrete reservoir on the Great Orme. E. and S. Dep. £2 2s.

Ossett B.C.—Service road, sewers and 3½-in. dia. water main, South-parade housing site. B.S. Dep. £1 1s.

Staffordshire Potteries W.B.—Sinking two 1,100-ft. boreholes, Peckforton Gap, Chester. G. H. Hill and Sons (Manchester), 51, Mosley-st., Manchester 2. Dep. £5 5s.

SEPTEMBER 9.

Boston B.C.—Laying new water mains in borough. W.E. Dep. £2 2s.

Ware R.D.C.—Laying of sewers at St. Margaret's estate, Gt. Amwell. S. Dep £1 1s.

SEPTEMBER 10.

Anglesey C.C.—Construction of impounding reservoir. Rofe and Rafferty, 3, Victoria-st., Westminster, S.W.3. Dep. £5 5s.

†**Basingstoke R.D.C.** — Roads, footpaths, sewers, and sewage disposal works, at Sherborne St. John. C. Dep. £5 5s.

Eston U.D.C.—Construction of 4,000 lin. yds. soil and surface water sewers; 10,000 sup. yds. reinforced concrete carriageway, Site No. 4, Eston. E. and S. Dep. £2 2s.

Ipswich T.C.—Roads and sewers at Maidenhead estate. B.S. and Water E. Dep. £2 2s.

SEPTEMBER 11.

Bournemouth T.C.—Roads and sewers at High Howe Close estate. B.E. Dep. £1 1s.

Maldon R.D.C.—Roads and subsidiary works at Tollesbury. E. and S. Dep. £2 2s.

SEPTEMBER 13.

Bath T.C.—Reconstruction of Ralph Allen's-dr. City E. Dep. £2 2s.

Wycombe R.D.C.—Sewers at Flackwell Heath estate. J. M. Smith (F.), Architect and S., 28, High-st., High Wycombe.

SEPTEMBER 15.

Billericay U.D.C.—Construction of soil sewers at Pitsea. S. Dep. £2 2s.

Brierley Hill U.D.C.—Additional outfall sewer at Roundhill sewage farm. E. and S. Dep. £2 2s.

***Brigg U.D.C.**—Streets and sewers at The Woodbine estate. Buttrick and Buttrick (F. and A.), 43, Oswald-rd., Scunthorpe. Dep. £2.

Crosby T.C.—Roads and sewers at Site No 11, off Lathom-ave. B.E. and S. Dep. £1 1s.

Faringdon R.D.C.—Provision and laying of approx. 1¼ miles of 6-in. dia. and 2¼ miles of 3-in. dia. spun-iron water mains, etc. E. and S. Dep. £2 2s.

Freebridge Lynn R.D.C.—Site works at East Winch (26 houses); Pentney (8 houses); North Wootton (14 houses). Harold Marsh (L.), 14, King-st., King's Lynn. Dep. £2 2s.

Hayes and Harlington U.D.C.—Roads and sewers at Bourne Farm estate, section 1. E. and S. Dep. £2 2s.

Lleyn R.D.C.—Sewerage and sewage disposal works at Llanystumdwy. C. Dep. £2 2s.

Merton and Morden.—Levelling and construction of 5,500 yds. concrete carriageway, etc. S.

West Bridgford U.D.C.—Reconstruction of Roland-ave., South Wilford. E. and S. Dep. £2 2s.

SEPTEMBER 16.

Rhayader R.D.C.—Sewerage and sewage disposal works at Newbridge-on-Wye. C. Dep. £2 2s.

SEPTEMBER 19.

Newbury T.C.—Roads and sewers at Shaw housing estate. B.S. and Water E. Dep. £2 2s.

Stevenage U.D.C.—Roads, sewers, water mains, etc., at Sish-la. site. C. Dep. £2.

SEPTEMBER 20.

***Clun R.D.C.**—Roads and sewers at Brockton Worthen estate. C. Dep. £2 2s.

Ebbw Vale U.D.C.—Roads and sewers at site No. 11, Glyncoed North. E. and S. Dep. £3 3s.

SEPTEMBER 22.

King's Lynn Docks and Railway Company.—Reconstruction of Estuary road. Gen. Manager.

SEPTEMBER 23.

Bristol T.C.—Roads and sewers at Brislington Trading Estate. City E. Dep. £2 2s.

SEPTEMBER 29.

Lancs. C.C.—Construction of pedestrian subway under Liverpool-Leeds-Hull trunk-rd. A580 at Swinton and Pendlebury, County S. and Bridgemaster. Dep. £2.

SEPTEMBER 30.

Bradfield R.D.C.—Construction of stoneware sewer and sewage treatment works. John Taylor and Sons, Artillery House, Artillery-row, Westminster, S.W.1. Dep. £5.

Exmouth U.D.C.—Sinking of borehole at Dolton pumping station. G. H. Hill and Sons (Manchester), 51, Mosley-st., Manchester 2. Dep. £5 5s.

Feltham U.D.C.—Making-up of 200 yds. of street. B.E. and S. Dep. £2 2s.

OCTOBER 1.

Lambeth B.C.—Supply and laying rolled asphalt paving, various streets. Borough E.

OCTOBER 3.

Calne and Chippenham R.D.C.—Roads and sewers at Corsham. Walter Rudman and Edwards, 32, Market-pl., Chippenham. Dep. £3 3s.

PUBLIC APPOINTMENTS

Full details of Public Appointments open will be found in the advertisement pages of this and previous issues.

GENERAL BUILDING WORK

(LONDON)

Balham.—FLATS.—Plans by R. G. Covall (F.), 5, Mitcham-rd., Tooting, S.W., for flats in High-rd.

Barking.—ADDITION.—To factory, Thames-rd., proposed by C. and M. Engineering Co., Ltd. Architects are W. T. Gunson and Son, 10, Marsden-st., Manchester.

Blackheath.—FLATS.—Plans by W. Braxton Sinclair and Partners, 45, Whitehall, S.W.1, for 16 flats and maisonettes, Wellington-gdns., Crooms-hill, S.E.

Catford.—HOUSES.—Plans by George Coles (F.), 40, Craven-st., Strand, W.C.2, for rebuilding 4 houses, Bromley-rd., S.E.

Chiswick. — ADDITIONS. — Diamond "H" Switches, Ltd., propose additional storeys to their Nos. 1-2 factories, Gunnersbury-ave., W. Architect is F. W. Charity (F.), 14, Howick-pl., S.W.1.

City of London.—TEXTILE CENTRE.—A group of buildings as a centre for the country's textile interests is to be built on a bombed site adjacent to St. Paul's Cathedral at an estimated cost of £4,000,000 to £5,000,000.

Clerkenwell.—FACTORY.—The Willin Key Co. (1946), Ltd., Bruton-st., W.1, propose large factory at 8-26, Bath-st., E.C. Architect is George Watt (F.), 7, Windermere-ave., S.W.19.

East Ham.—FLATS.—Plans by Gunton and Gunton (FF.), Empire House, St. Martins-le-Grand, E.C.1, for 12 flats, 94-104, Goldsmith-ave., E.

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Finchley.—FLATS.—Plans by Howard Sharp, 1,285, High-rd., Whetstone, N.20, for 24 flats on site of "Avignon," Oakfield-rd., N.3.

Finsbury.—FLATS.—The New River Co., Ltd., 30, Myddleton-sq., E.C.1, propose to reconstruct as 20 flats Nos. 47-53, Myddleton-sq., E.C. Architect is A. E. Westerman (A.), Kensington Court, W.8.

Harrow-rd. — EXTENSION. — At garage and depot, Harrow-rd. and North Circular-rd., N.W., proposed by L.P.T.B. Staff Architect, Thomas E. Bilbow (F.), 55, Broadway, S.W.1.

Hendon.—FLATS.—Plans by S. G. Livock (F.), 10, Tavistock-pl., W.C.1, for flats, 520-522, Finchley-rd., N.W.11.

Knightsbridge.—FLATS.—Alexandra Hotel is to be converted into 50 flats at estimated cost of £400,000.

Lambeth. — FLATS. — Ecclesiastical Commissioners to build 32 flats, Vauxhall Estate, Thorncroft-st., S.W. Surveyors are Cluttons, 5, Great College-st., S.W.1.

Lee.—FLATS.—Plans by A. Frampton, Bromley Hill Estate Office, Bromley, Kent, for 12 flats, 96-100, Bromley-rd., S.E.

Paddington.—FLATS.—B.C. are considering building flats on a large vacant site on the west side of Eastbourne-ter.

Rotherhithe. — POWER STATION. — A power station is to be built on the site of the former Redriff School.

Stratford.—REBUILDING.—Proposed by Tillett's Essex Sanitary Laundry, Ltd., at premises, Romford-rd., E.15. Plans by Charles Living and Son, 233, Leytonstone-rd., Stratford.

Twickenham.—HOUSES.—T.C. approved preliminary plans for 90 houses, Butt's Farm Est.

Walthamstow.—FLATS.—Warner Estates, Ltd., Brettenham House, Lancaster-pl., W.C.2, propose 12 flats, Forest-rd. and Winn's-ter., E.17. The architects are Sir John Brown, A. E. Henson and Partners, 117, Sloane-st., S.W.1.

Walthamstow.—STORE.—Plans Committee of the B.C. have granted permission to Messrs. John Knowles and Co. to erect a store on land in Wood-st.

(PROVINCIAL)

Abram.—U.D.C. propose development of 13 acres of land for houses at Lee-la.

Altrincham.—T.C. approved alterations and additions at Stockport-rd., Timperley, for Waring and Gardner.

Bath.—E.C. to proceed with the erection of Southdown School at £48,000. Plans by A. J. Taylor and Partners, 4, Bridge-st., Bath.

Bolton.—T.C. approved: Alterations at Bury-rd. for L. R. Shorrock to plans by T. E. Smith and Son (A.), Central-chbrs., Fold-st.; additions to works at Platt-st. for B.E.F. Engineers, Ltd.; extensions at Churchgate for Sabini Bros.; works canteen at Edgar-st. for Hollas, Ltd., Bradshaw, Gass and Hope (FF.), architects, 19, Silverwell-st.; E.C. propose dining centre at St. John's C. of E. schools.

Brighton.—E. Chaplin and Co., 8, Sylvester Path, Mare-st., Hackney, E., to acquire site at Hollingbury Industrial Estate for factory. The surveyors are Britton, Poole and Browne, 2, Wellington-rd., St. John's Wood, N.W.

Bromsgrove.—Imperial Chemical Industries, Ltd., Stoke Works, propose extensions to salt works, at £500,000.

Bury.—Infirmary Board of Governors propose extensions for maternity accommodation.

Darlington.—Plans prepared by S. W. Milburn and Partners, 52, Fawcett-st., Sunderland, for technical block and canteen at Auckland-rd., for Darlington Chemical and Insulating Co., Ltd.

Dartford.—Kent Electric Power Co., Ltd., propose to extend Littlebrook Generating Station, Stone Marshes. Consulting engineers are Merz and McLellan, 32, Victoria-st., S.W.1.

Dartford.—Marks and Spencer, Ltd., Baker-st., W., propose to develop site of 58-60, High-st. Plans by Lewis and Hickey, 130, Regent-st., W.1.

Doncaster.—Crompton Parkinson, Ltd., propose large extensions to factories.

Durham.—Plans prepared by C.W.S. Architects' Dept., 90, Westmorland-rd., Newcastle-on-Tyne, for the erection of dry cleaning works and alterations and additions at Neville's Cross for Co-operative Laundries, Ltd.

Hereford.—Large factory premises to be erected at Widemarsh for William Evans and Co. (Hereford and Devon), Ltd. Plans by Willink and Dod, Cunard-bldgs., Liverpool.

Hull.—Hull Cinemas, Ltd., propose to erect cinema and café at Ferensway. Plans by Blackmore, Sykes and Co., Ruskin-chbrs., Scale-la., Hull.

Manchester.—T.C. approved: Reinstatement of war damage to office block at John Dalton-st. for Pilot Assurance Co., Ltd.; alterations

to factory at Cheetham Hill-rd., Cheetham, for The Artell Manufacturing Co.

Marple.—U.D.C. propose development of 24 acres of land at Hibbert-la., for housing.

New Malden.—Plans being prepared by G. Grey Wornum and Partners, 39, Devonshire-st., W.1, for development for housing of Kingsnympton Hall estate.

Northumberland.—Layout and sketch plans to be prepared by County A., County Hall, Newcastle-on-Tyne, for additional accommodation at St. Andrew's Mental Colony.

Northwich.—Imperial Chemical Industries, Ltd. (Alkali Division), Winnington, propose large extensions to works at Winnington and Wallersote.

Oldham.—E.C. propose dining room and kitchen for St. Anne's R.C. school, Cook-st.

Prestwich. — Lancashire Mental Hospitals Board propose reconstruction and additions to nurses' home at Mental Hospital. Plans by G. Noel Hill (F.), County A., County Offices, Fishergate-hill, Preston.

Rochdale.—T.C. approved: Alterations at Yorkshire-st. for Whiteley Bros.; additions at Linden Mill, Queensway, for S. O'Neill and Son, Ltd.; Churches Planning Committee, Manchester, propose 4 churches at Kirkholt estate; E.C. propose school canteen at Parochial Hall for St. Gabriel's R.C. school.

Rotherham.—E.C. propose extensions to South-gr. Secondary Schools, E. J. Manson is B.E.

Salford.—T.C approved layout for 52 flats, nursery school and children's playground at Eccles New-rd.

Scarborough.—Plans by W. S. Gray, Scarborough, for alterations at Scarborough Hospital, Scalby-rd., have been approved.

Skipton.—R.D.C. received approval for 80 houses at Park-ave., Sutton.

Southport.—T.C. propose alterations and additions at Transport Depot, Canning-st., for Norman Jones, Son and Rigby (FF.), architects, Williams Deacons Bank-chbrs., 271, Lord-st.

Stafford.—T.C. propose 25 traditional houses and 125 aluminium houses at Moss Pit site. T. Higson, B.S.

Stockport.—T.C. approved: Alterations and additions at motor repair works, Thomas-st., for Davenport and Pollard; additions to works at Bramhall Moor-la., Mirrlees, Bickerton and Day, Ltd.; works canteen at Marriott-st. Mill for R. Bailey; additions at South Carrs for Fieldings (Stockport), Ltd.; classrooms and sanitary block at Alexandra Park school for E.C.

Stockton (Co. Durham).—Factory proposed at Boathouse-la. for G. Pullen and Son. Plans by R. Cowan, Gazette-bldgs., Stockton-on-Tees.

Urmston.—U.D.C. approved: Warehouse at Mellors-rd., Trafford Park, for W.E. Flat Roofing Co.

Warrington.—E.C. propose school for girls at Louchers-la. at £235,397. Plans by J. Y. Hughes, B.S.

TENDERS

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.
¶ Denotes *accepted by H.M. Government departments*.

Alton.—40 Airey houses at six sites, for R.D.C. G. Maxwell Aylwin (F.), 26, West-st., Farnham, Surrey. Quantities by S. J. Bryant, F.S.I., 99, Winchester-rd., Basingstoke: *F. C. Fairhead, Alresford, Hants, for eight houses at Ropley, £11,493; *Chapman, Lowry & Puttick, Ltd., Haslemere, Surrey, eight houses at Shalden, six houses at Oakhanger, eight houses at Worldham, £32,578; *Rippin & Co., Ltd., Wrecclesham, nr. Farnham, Surrey, 10 houses at Bentley, £14,827.

Alton.—34 houses at two sites, for R.D.C. G. Maxwell Aylwin (F.). Quantities by S. J. Bryant, F.S.I.: *Chapman, Lowry & Puttick, Ltd., Haslemere, Surrey, for 16 houses at Binsted (with site works), £27,117; and 18 houses at Selborne (with site works), £30,133.

Atcham.—10 additional houses at Pontesbury, for R.D.C. J. K. Sockett, S., Council Offices, Shrewsbury: †W. Higley & Son, 8, Pride-hill, Shrewsbury.

Atherton.—Transformer sub-stations at Carr Bank-st. and Derby-st., for U.D.C. Electricity Dept.: *George Moss & Sons, Ltd., Pennington Saw Mills, Leigh, Lancs.

Bakewell.—22 houses at Tideswell, for R.D.C. R. Hayhurst, S.: *F. H. Hill, Tideswell, nr, Buxton, £27,038.

Bury.—48 houses for T.C.: *Direct Labour.

Chesterfield.—Reinforced concrete service reservoir and ancillary work at Derby-rd., Higham, for North East Derbyshire Joint Water Committee. D. S. Cuthill, Water E., Rural Council House, Salter Gate: *T. Beighton, Ltd., Station-rd., Brimington, Chesterfield.

Colwyn Bay.—50 houses at Mochdre estate, for T.C. N. S. Jeffrey, B.S.: *W. R. Salisbury and R. Peel, Ltd., 80, Mostyn-st., Llandudno, £57,989.

Farnhurst (Surrey).—Extension to Fertiliser Research Station, for Imperial Chemical Industries, Ltd., Buckingham-gate, S.W.1. Arcon, architects, 81, Piccadilly, W.1: *Clement Bros., 19-21, Wey Hill, Haslemere, Surrey.

Finsbury.—Reinstatement of premises at 41-45, Goswell-rd., for Chas. Straus. Wright & Tidmarsh, architects, 39, Pentonville-rd., Islington, N.1: *Mattocks & Parsons, 165, Gray's Inn-rd., W.C.1.

Gateshead.—Factory for Darlington Engineering Co., Ltd. Architects: Spence & Price, St. Mary's-pl., Newcastle-on-Tyne: *W. Hall, Ltd., Bensham, Gateshead.

Golborne.—Foundation works and superstructure to new Acid Plant, for Harbens (V.S.M.), Ltd. Drury & Gomersall, Imperial-bldgs., Oxford-rd., Manchester, architects: *George Moss & Sons, Ltd., Pennington Saw Mills, Leigh, Lancs.

Goole.—24 Airey houses at Western-rd., for T.C.: *Bainbridge (Builders), Ltd., Doncaster, £33,402 (negotiated price).

Haltemprice, Yorks.—14 houses at Bacon Garth, Cottingham, for U.D.C.: *J. Mather & Son, 15, De Grey-st., Hull.

Hamilton.—Extension of factory at Wellhall-rd., for Phillips Lamps, Ltd., Century House, Shaftesbury-av., W.1. Thomas S. Cordiner (A.), architect, 261, West George-st., Glasgow (acting for Scottish Industrial Estates, Ltd., 4, Woodside-pl., Charing Cross, Glasgow, C.3): *A. A. Stuart & Sons, Ltd., 2230, London-rd., Glasgow E.

Hornsey.—Rebuilding houses, 39-41, Burghley-rd. Finnis, Letts & Co., architects, Bounds Green Estate Office, N.11: *G. Bell & Sons, Ltd., Bruce Grove-rd., Tottenham, N. (cost, £5,530).

Kidderminster.—26 houses and four bungalows, together with site work, for R.D.C. A. S. Northover, M.Inst.Mun.E., A.M.I.Struct.E., E. & S.: *Humphries & Bowdler, Lark Hill, Kidderminster, £42,509.

Kidsgrove.—16 Duplex houses at Woodshutts estate, for U.D.C. E. and S.: *H. Grant & Son, Hickman-st., Newcastle, £17,799.

L.C.C.—Contract exceeding £2,500 in value placed by L.C.C. during period ended August 20. Demolition and rebuilding of south-east wall of gymnasium at Holloway County Secondary school (Islington, N.): F. Troy & Co., Ltd., 7, St. James'-st., S.W.1.

¶London (Admiralty). — *Coventry Gunnery Equipment Depot*: Repairing and renewing roof, etc., E. H. Smith (Westhaven), Ltd., 1, Sherbourne-rd., Acocks Green, Birmingham 27.

¶London (Admiralty).—*Queenborough, Kent*: Removal of 600 ft. of pier extension. Mears Bros. (Contractors), Ltd., 154, Sydenham-rd., S.E.26.

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¶London (Air Ministry).—Contracts to value of £500 or over for week ended August 23. General maintenance work: F. Shepherd and Son, Ltd., York; Gibbard and Ingram, Winslow, Bucks. Electrical work: E. Dyne and Co., Ltd., London, S.E.6. Heating installation: Kelvin Heating and Ventilating Co., Ltd., Glasgow, C.2. Painting work: C. J. Else and Co., Ltd., Matlock, Derbyshire; Geo. M. Carter (Erectors), Ltd., Newcastle-on-Tyne, 2; South London Decorators, Ltd., London, S.W.12.

¶London (M.O.W.).—Contracts placed by M.O.W. for week ending August 21:—

Banffshire: Keith Grammar School, kitchen and dining-room, Davidson, Son & Co., Upper Kirkhill, Nigg, Aberdeen. *Beds*: National Aeronautical Est., supersonic wind tunnel, Wheesol, Ltd., Darlington, Durham. *Berks*: Harwell, Adfield Farm, prefab. site, work of development, Sutton & Sons, Ltd., Royal Seed Establishment, Reading, Berks. *Cumberland*: Whitehaven, Kell's Central Senior School, additional classrooms, James Leslie & Co., Coach-rd., Whitehaven. *Essex*: Rainsford County School, Chelmsford, kitchen and dining-room, Ed. W. Smith, Ltd., 1, Western-rd., Romford. *Isle of Wight*: Freshwater, Queen's-rd. School, temporary school buildings, William Downer & Son, York-rd., Totland Bay, I.O.W. *Kent*: Picardy County School, Halt Robin-rd., Erith, temporary school buildings, Halse & Sons, Ltd., 5, Chapel-hill, Woolwich, S.E.18. *Lancs*: Bootle, C.B. Area 13, Tarran houses, Norwest Construction Co., Ruthven-rd., Litherland, Liverpool 21; Sacred Heart R.C. School, Liverpool, hutted accommodation, Fredk. Clark & Son, 191, Heyworth-st., Liverpool 5; Manchester, C.B. Area 20, aluminium houses, J. Gerrard & Son, Swinton, Lancs; Radcliffe, B.2 Area, site work for 12 aluminium houses, Drinkwater & Whittle, Norris-st., Farnworth, Bolton; Secondary Modern School, Highfield, hutted accommodation, Arnold Ingram & Son, Crescent Sawmills, St. Annes-on-Sea; Washington Hall, Chorley, heating and hot water installation, G. N. Haden & Son, St. Luke's-chbrs., Bold-pl., Liverpool; Ashton-upon-Lyne, B.7, aluminium houses, E. B. Jones & Rawlinson, 6, Leaf-sq., Salford 6. *Middx.*: Stanmore, T.O.B. Site B, columns and beams, Helical Bar & Engineering Co., 82, Victoria-st., S.W.1. *Midlothian*: Post Office Stores Dept., Russell-rd., Edinburgh, alteration to factory block, Millar & Baird, 2a, Hill-st., Edinburgh.

Monmouthshire: St. Joseph R.C. School, Newport, kitchen, W. A. Davies, Ltd., Abersychan, Pontypool. *Morayshire*: Conicaval Public School, kitchen and dining-room, James Leith, 127, Causewayend, Aberdeen. *Northumberland*: Newcastle-on-Tyne, C.B.8, aluminium houses, Edgar Lawson, 10, Woodland-rd., Darlington. *Notts*: Hallcroft Secondary Modern School, West Furlong, East Retford, temporary school buildings, W. Neal & Son, Bridge Works, Bridgegate, Retford, Notts. *Renfrewshire*: Port Glasgow, Arcon houses, McKean & Co., 147, West Regent-st., Glasgow; Port Glasgow, Tarran houses, McKean & Co., 147, West Regent-st., Glasgow. *Somerset*: Secondary Modern School, West Twerton, Bath, temporary school buildings, H. J. Walker & Sons, Station-fd., Fishponds, Bristol. *Staffs*: Lichfield, R.D.C.2, foundation and site works for aluminium houses, M. A. Boswell, Ltd., School-st., Wolverhampton. *Surrey*: M.O.W., T.O.B., Main-rd., Hinchley Wood, columns and beams, F. Bradford & Co., Angel-rd., Edmonton. *Sussex*: Secondary Modern School, Priory-rd., Hastings, temporary school buildings, E. Goodwin & Sons, 34, Sackville-rd., Bexhill-on-Sea. *Warwickshire*: Dennis-rd. School, Balsall Heath, Birmingham, temporary school buildings, F. Deeley, Ltd., 210, High-st., Birmingham; Barr's Hill School, Radford-rd., Coventry, kitchen and dining-rooms, E. Harris & Son, Burnsall-rd., Canley, Coventry. *Yorks*: Grangetown, Sir William Worsley School, additional classrooms, Coultas & Shaw, Ltd., 33, Stephenson-st., Thornaby-on-Tees; Middlesbrough, Lawson School, additional classrooms, Coultas & Shaw, Ltd., 33, Stephenson-st., Thornaby-on-Tees; Barnsley, C.B. Area 4, aluminium houses, C. & D. Potter & Son, 119, Doncaster-rd., Barnsley; Government Buildings, Lawnswood, Leeds 6, extension to offices and new boiler house, W. Airey & Sons, Eldon House, Leeds.

¶London (War Dept.).—Works contracts placed by War Dept. for week ended August 16:—

Warwickshire: Miscellaneous work, Geo. Linnecor & Son, Ltd., Birmingham. *Berks*: Hot and cold water and heating installations, F. Church, Oxford. *Hampshire*: Miscellaneous work, Bridgwater Bros., Epsom. *Middx*: Roadwork, F. Bracey (Rds.), Ltd., Watford. *London, S.E.*: Miscellaneous work, W. Norman & Son, Bexley Heath.

Longford.—13 houses at Water-st., for U.D.C.: *P. Kelly & Sons, Longford, £24,981.

Manchester.—Factory at Bailey-rd., Trafford Park, for Beck & Pollitzer, Ltd., 28, John Dalton-st. Thomas L. Prince (L.), architect, Aldwych House, London, W.C.2: *W. Hall & Son, Ltd., 60, Christian-st., Liverpool 1.

Manchester.—Reinstatement of Royal Exchange, Market-st., Bradshaw, Gass & Hope,

architects, 19, Silverwell-st., Bolton: *J. Dickinson & Co. (Bolton), Ltd., Fairclough-st., Bolton.

Newcastle-Emlyn.—10 houses at Llanfihangel-ar-Arth, for R.D.C.: *Ben Davis, Llangeler, £12,895.

Otley.—26 houses at Bell Busk-la., for U.D.C. J. A. A. Pratt, S.: *M. Harrison (Leeds), Ltd., Post Hill Quarries, Farndon, nr. Leeds, £31,211.

Parr (St. Helens).—Three standard factories for North Western Industrial Estates. Engineers: Sir Alexander Gibb & Partners, Queen Anne's Lodge, S.W.1: *George Moss & Sons, Ltd., Pennington Saw Mills, Leigh, Lancs.

Portsmouth.—Reconstruction of factory at Baker-st., Landport, for Weingarten Bros., Ltd., Milton, Southsea, Hants. Plans by Ernest J. Thomas, Coronation House, King's-ter., Portsmouth: *Jno. Croad, Ltd., Portland-st., Portsmouth.

St. Helens.—24 houses at East Lancashire-rd. site, for C.B. M. Ward, B.E.: *R. S. Ellison, Windle City, St. Helens.

Scarborough.—66 Airey houses at Barrowcliffe estate, for T.C. H. V. Overfield, B.E.: *Higgs & Hill, Ltd., Leeds, £94,186.

South Molton.—12 houses at Bishopsnympton, together with roads and sewers, etc., for R.D.C. A. G. Oxland, 8, East-st., South Molton: *W. E. Bawden & Son, Bishopsnympton, South Molton, £18,942.

Stafford.—Extensions to "C" Block, Staffordshire General Infirmary, for Board of Management: *J. Banks, Eccleshall-rd., Walton, Stone, Staffs.

Stoke-on-Trent.—Chell County Primary Infants' school, for E.C. J. R. Piggott (E.), County A. Site and foundation works: *G. & J. Seddon, Ltd., 55, Duke-st., Fenton, Stoke-on-Trent, £27,647; superstructure: *Evans, Cooper & Co., Liverpool-rd., Newcastle-under-Lyme, £25,588.

Stoke-on-Trent. — Rebuilding premises at London-rd., for Dunlop Rubber Co., Ltd. Plans by Staff Architect, Fort Dunlop, Birmingham: *Ball & Robinson, Ltd., Stoke-on-Trent.

Stratford.—Rebuilding factory, etc., at Marshgate-la., for Andrew Weir & Co. (Liverpool), Ltd. A. J. Fowles (F.), architect, 7, Burlescoombe-rd., Thorpe Bay, Essex: *W. J. Clemens, Bridge-rd., Stratford, E.15.

Sutton (Surrey).—Erection of head post office, sorting office and garages, etc.: *Lavender McMillan, Ltd., 54, Cheam Common-rd., Worcester Park.

Uxbridge.—Alterations and additions to factory, for B. Winstone & Co., Ltd., 150, Clerkenwell-rd., E.C.1. Stanley Peach & Partners, architects, 28, Eccleston-sq., S.W.1: *B. Darlington, Ltd., High-st., Amersham, Bucks.

Walker-on-Tyne. — Combined garage and workshop, for British Glues & Chemicals, Ltd. Architect: F. A. Smith, 65, London-rd., Leicester: *S. F. Davidson, 123, New Bridge-st., Newcastle-on-Tyne.

Wallsend.—64 houses at Westmorland estate, for T.C. G. N. Teasdale, B.E.: *J. Armstrong (12); *N. Willis (20); *A. Weir (20); *T. Oates & Co. (12) (all of Wallsend).

Westhoughton.—44 houses at Daisy Hill, for R.D.C.: *Frank Blurton, Ltd., Hazel-gr., £60,410 (subject to M.H. approval).

Willesden.—Block of 30 flats at Chichester-rd., South Kilburn, for T.C. John C. Morris, B.E. & S. Quantities by Taylor & Smith: *Mizen & Woodford, Ltd., 70, Lordship-la., S.E.22, £47,300.

Worksop.—18 Airey houses at Common-la., Harworth, for R.D.C.: *Dernies & Bell, 17, Mount-av., Worksop.

Wortley.—92 Airey houses at three sites, for R.D.C. Husband & Co., architects, 388, Glossop-rd., Sheffield 10: ‡Ben Bailey, Ltd., Doncaster-rd., Mexborough.

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